UNINTENTIONAL WEIGHT LOSS IN OLDER ADULTS: NUTRITION-RELATED KNOWLEDGE, PERCEPTIONS AND PRACTICES OF NURSING STAFF WORKING IN LONG-TERM CARE FACILITIES IN THE CAPE METROPOLE

by
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Declaration

By submitting this thesis electronically, I declare that the entirety of the work contained therein is my own original work, that I am the owner of the copyright thereof (unless to the extent specifically otherwise stated) and that I have not previously in its entirety or in part submitted it for obtaining any qualification.

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ABSTRACT

Unintentional weight loss in older adults: Nutrition-related knowledge, perceptions and practices of nursing staff working in long-term care facilities in the Cape Metropole

Introduction

Unintentional weight loss (UWL) is common in older adults, with a 50-60% prevalence in long-term care facilities (LTCFs). UWL negatively impacts on quality of life and leads to increased morbidity, increased mortality and higher cost of care. Nursing staff are the primary care providers for older adults in LTCFs and key in the early identification and management of UWL.

Objectives

The study aims to determine the knowledge, perceptions and practices of nursing staff regarding the identification and management of UWL in older adults residing in LTCFs in the Cape Metropole. Data from different categories of nursing staff and facilities types were compared, and barriers to managing UWL were identified.

Methods

A cross-sectional, descriptive study design with an analytical component was used and simple random sampling applied to select LTCFs in the Cape Metropole. A self-administered questionnaire was designed and pilot tested as a research instrument to investigate the knowledge, practices and perceptions of nursing staff with regards to the study objectives. An interviewer-administered facility questionnaire was completed with management staff of facilities to obtain background information and for cross-control purposes.

Results

Nursing staff (N=108) from eight subsidised and seven non-subsidised LTCFs (n=60 and n=48 staff respectively) consented to participate and included professional nurses (n=27), staff nurses (n=20), nursing auxiliaries (n=27) and caregivers (n=34). Nursing staff obtained a mean knowledge score of 62%. Even though sub-categories of nursing staff with higher qualifications levels scored statistically significantly better (p=<0.001), all nursing staff categories had insufficient knowledge (38%) regarding weight loss. Most nursing staff (73.2-100%) had positive perceptions regarding the identification and management of UWL, although almost half had misperceptions that malnutrition is uncommon in institutionalised

older adults (45.8%) and that it is normal for older adults to have a poor appetite (45.4%). Poor practices that do not support the identification and management of UWL were identified. Half of participants reported that residents had limited choices with regards to meals and that plate waste was reported only once more than ½ or ¾ of a meal was not consumed. Although 87% of participants indicated that residents were weighed, it was only done regularly by 60.6% of those nursing staff and only 22.2% could correctly identify a significant weight loss. Nutrition screening and assessment tools were rarely used (3.8-16.8%). There was no statistically significant difference between knowledge scores of nursing staff working at different facility types and only a significant difference ($p<0.05$) in a minority of perception statements among the different categories of nursing staff, and nursing staff working at different facility types.

Conclusion

Overall, nursing staff had positive perceptions regarding UWL, but many did not show sufficient knowledge, nor did facilities apply necessary procedures to support best practices for the effective identification and management of UWL in older adults residing in LTCFs in the Cape Metropole. Nursing staff must be empowered through continuous education and supported with applied standard procedures to enable early identification and addressing of UWL and malnutrition in older adults residing in LTCFs.

OPSOMMING

Onbeplande gewigsverlies in ouer volwassenes: Voedingsverwante kennis, persepsies en praktyke van verpleegpersoneel werksaam in langtermyn versorgingseenhede in die Kaapse Metropool

Inleiding

Onbeplande gewigsverlies (OGV) is algemeen by ouer volwassenes, met 'n voorkoms van 50-60% in langtermyn versorgingseenhede (LVEe). OGV het 'n negatiewe impak op lewenskwaliteit en lei tot verhoogde morbiditeit, verhoogde mortaliteit en hoër versorgings-onkostes. Verpleegpersoneel is die primêre versorgers van ouer volwassenes in LVEe en onmisbaar in vroeë identifisering en bestuur van OGV.

Doelwitte

Die studie poog om kennis, persepsies en praktyke van verpleegpersoneel te bepaal rondom die identifisering en bestuur van OGV in ouer volwassenes wat in LVEe in die Kaapse Metropool tuisgaan. Data van die verskillende kategorieë verpleegpersoneel en eenheidstipes is vergelyk, en hindernisse om OGV te bestuur is geïdentifiseer.

Metode

'n Dwarssnit, beskrywende studie-ontwerp met 'n analitiese komponent is gebruik en eenvoudige ewekansige steekproefneming is toegepas om LVEe in die Kaapse Metropool te selekteer. 'n Self-geadministreerde vraelys is ontwerp en in 'n loodsstudie as navorsinginstrument getoets om verpleegpersoneel se kennis, praktyke en persepsies met betrekking tot die studie-doelwitte te bepaal. 'n Onderhoudvoerder-geadministreerde versorgingseenheidvraelys is saam met bestuurspersoneel van LVEe voltooi vir die verkryging van agtergrondinligting en vir kruiskontrole.

Resultate

Verpleegpersoneel (N=108) van agt gesubsidieerde en sewe ongesubsidieerde LVEe (n=60 en n=48 personeel onderskeidelik) het ingestem tot deelname en het professionele verpleegkundiges (n=27), stafverpleegsters (n=20), verpleegassistente (n=27) en versorgers (n=34) ingesluit. Verpleegpersoneel het 'n gemiddelde punt van 62% vir hul kennis behaal. Alhoewel sub-kategorieë van verpleegpersoneel met hoër kwalifikasievlakke statisties betekenisvol beter punte (p=<0.001) behaal het, het alle verpleegpersoneel-kategorieë onvoldoende kennis aangaande gewigsverlies (38%) gehad. Die meeste verpleegpersoneel (73.2-100%) het positiewe persepsies ten opsigte van die identifisering en bestuur van OGV

gehad, hoewel bykans die helfte die wanpersepsie gehad het dat wanvoeding ongewoon is in geïnstitusionaliseerde ouer volwassenes (45.8%) en dat dit normaal is dat ouer volwassenes ’n swak aptyt het (45.4%). Swak praktyke wat nie die identifisering en bestuur van OVG ondersteun nie, is geïdentifiseer. Die helfte van deelnemers het gerapporteer dat inwoners beperkte keuses het ten opsigte van maaltye en dat bordkwisting eers gerapporteer word indien meer as die ½ of ¾ van ’n maaltyd nie ingeneem word nie. Alhoewel 87% van deelnemers aangedui het dat inwoners geweeg word, is dit net deur 60.6% van hierdie verpleegpersoneel gereeld gedoen en slegs 22.2% kon ‘n betekenisvolle gewigsverlies korrek identifiseer. Voedingsifting- en assesseringsinstrumente is selde gebruik (3.8-16.8%). Daar was geen statisties betekenisvolle verskil tussen die kennis puntetelling van verpleegpersoneel wat werksaam was by verskillende versorgingseenheidstipes nie. ’n Betekenisvolle verskil ($p<0.05$) is tussen enkele persepsies onder die verskillende kategorieë van verpleegpersoneel, en verpleegpersoneel werksaam by onderskeie tipes versorgingseenhede gevind.

Samevatting

Verpleegpersoneel het oor die algemeen positiewe persepsies getoon ten opsigte van OGV, maar baie het onvoldoende kennis gehad. Boonop het versorgingseenhede nie die nodige prosedures toegepas om die beste praktyke vir die effektiewe identifisering en bestuur van OGV in ouer volwassenes, wat in LVEe in die Kaapse Metropool woon, te ondersteun nie. Verpleegpersoneel moet deur voortgesette onderrig bemagtig en deur die toegepassing van standaardprosedures ondersteun word, om dit moontlik te maak om OGV vroegtydig te identifiseer, en sodoende wanvoeding in ouer volwassenes woonagtig in LVEe aan te spreek.

CONTRIBUTIONS BY PRINCIPAL RESEARCHER AND FELLOW RESEARCHERS

The principal researcher (**Johanna Cornelia de Haas**) developed the idea and the protocol. The principal researcher planned the research, undertook data collection, captured the data for analyses, interpreted the data, and drafted the thesis. **Prof. Daan Nel** (Statistician, Centre for Statistical Consultation, University of Stellenbosch) assisted with sample size calculation in the protocol, and data was analysed with the assistance of **Prof. Rhoderick Machekano** (Statistician: Biostatistics Unit, Faculty of Medicine and Health Sciences, Stellenbosch University). **Maritha Marais** (study leader) and **Elizma van Zyl** (co-study leader) provided input at all stages and revised the protocol and thesis. Language and technical editing was done by **Charlene Nieuwoudt**.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF BOXES

LIST OF FIGURES

LIST OF ADDENDA

LIST OF ABBREVIATIONS

ACVV	Afrikaanse Christelike Vrouevereniging, translated in English as 'Afrikaans Christian Women Society'
ANOVA	Analysis of variance
BMI	Body Mass Index
IQR	Interquartile range
LTCF	Long-term care facility
MNA	Mini Nutritional Assessment
MNA SF	Mini Nutritional Assessment Short Form
MRC	Medical Research Council
MUST	Malnutrition Universal Screening Tool
NSI	Nutrition Screening Initiative
RMSSE	Root Mean Square Standardized Effect
SANC	South African Nursing Council
SGA	Subjective Global Assessment
UWL	Unintentional weight loss
WHO	World Health Organization

LIST OF ACRONYMS

GERATEC	Gerontological Research, Training, Education and Catering Company

LIST OF DEFINITIONS

Malnutrition	A state in which a deficiency, excess or imbalance of energy, protein and other nutrients causes adverse effects on body form, function and clinical outcome. This definition includes both over and undernutrition.[1]
Unintentional weight loss	Involuntary decline in total body weight over time[2]
Category 1 resident	Independent[3]
Category 2 resident	Needs assistance with some activities of daily living[3]
Category 3 resident	Needs 24 hours nursing supervision and care[3]
Professional nurse	Is educated and competent to practice comprehensive nursing (general, community, midwife and mental health) independently[4]
Staff nurse	Is educated and competent to practise basic nursing independently[4]
Nursing Auxiliary	Is educated and competent to practise elementary nursing independently[4]
Caregiver	Providers of personal care (not classified as a nurse)[4]
Validity	The extent to which a measure actually measures what it is meant to measure[5]
Content validity	It requires that the measure accounts for all relevant aspects of the study area[5]
Face validity	It refers to the degree to which the measure or question make sense to participants on a subjective level[5]
Reliability	The degree of similarity of the information obtained when the measurement is repeated on the same subject or the same group[5]

CHAPTER 1: LITERATURE REVIEW AND MOTIVATION FOR STUDY

1.1 INTRODUCTION

There is a high prevalence of unintentional weight loss (UWL) in older adults residing in long-term care facilities (LTCFs). Since several negative outcomes are associated with UWL, early identification and management thereof is of the utmost importance.

As the primary caregivers of older adults in LTCFs, nursing staff has the key role in the identification and management of UWL in this population group. Therefore it is essential that they are equipped with the necessary knowledge and tools to effectively identify and address UWL.

This literature review will mainly focus on malnutrition and UWL in older adults residing in LTCFs and on the identification and management thereof by nursing staff. Available literature on the knowledge, perceptions and practices of nursing staff with regards to the above-mentioned will be summarised. The chapter will end with the researcher's motivation for conducting this research study.

1.2 MALNUTRITION AND UNINTENTIONAL WEIGHT LOSS IN OLDER ADULTS

1.2.1 Malnutrition

Malnutrition, as defined by Stratton et al., is a state in which a deficiency, excess or imbalance of energy, protein and other nutrients causes adverse effects on body form, function and clinical outcome. This definition includes both overnutrition and undernutrition.[1] For the purpose of this research study malnutrition will only refer to undernutrition.

Undetected and untreated, malnutrition does not only lead to severe consequences such as increased hospital stay, impaired immunity, pressure ulcers, decreased physical function and mortality but can also have a negative effect on quality of life.[6-11]

Although there are factors associated with malnutrition that cannot be controlled (such as malignancies and specific medical conditions), there are several factors that are amenable to intervention, including depression, oral and swallowing problems and eating dependency.[2,12]

1.2.2 Malnutrition in older adults

Malnutrition is a common although under-recognised problem among older adults[a] in LTCFs.[14] Institutionalised older adults, as well as those admitted to hospital, have an increased risk of malnutrition as opposed to free-living older adults.[15]

Several studies conducted in various countries and LTCF settings for older adults have reported a high prevalence of malnutrition. Some of these studies will be described below.

Saletti et al. (2000) found 36% of an institutionalised older adult population in Sweden (n=872) to be malnourished and 48% at risk of malnutrition according to the Mini Nutritional Assessment (MNA). Prevalence of malnutrition was the highest in nursing home accommodation where 71% of older adults were classified as malnourished and the remaining 29% as having a risk of malnutrition.[16]

Another study by Suominen et al. (2005) indicated that 29% of older adults in nursing homes in Helsinki (n=2114) was malnourished and 60% were at risk of malnutrition when evaluated with the MNA.[10]

In 2007 Challa et al. did a study in the United States (n=128 514) to determine the extent of malnutrition[b] among older adults (60 years and older) who resided in LTCFs. More than 12% of the overall sample was malnourished of which 27% was severely malnourished.[17]

More recently (2010) a retrospective pooled analysis of 24 datasets with full MNA classifications from researchers from 12 countries (n=4 507) were combined to examine the prevalence of malnutrition in older adults in four different settings. While the prevalence of malnutrition was 5.8% in community-dwelling older adults, malnutrition was present in 13.8% of older adults in nursing homes. The prevalence of malnutrition was even higher for older adults in hospital (38.7%) and in rehabilitation (50.5%).[15]

There are various possible factors that can contribute to UWL and subsequent malnutrition in older adults residing in LTCFs.

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[a] Older adults refers to individuals aged 65 years and older.[13]

[b] For the purpose of this study chronic malnutrition was defined as a Body Mass Index (BMI) <18.5kg/m^2 and severely malnourished as BMI <16kg/m^2.[17]

1.2.3 Weight changes in adulthood

Body weight of healthy adults gradually increases until the sixth decade of life, with an increase in body fat. Conversely there is a decrease in lean body mass at a rate of 0.3 kg/year beginning in the third decade. Body weight usually peaks in the sixth decade and remains stable up to the age of 70. From the age of 70-75 years, weight slowly decreases in very small increments of 0.1-0.2 kg/year. Therefore substantial weight loss, indicative of unintentional weight loss, should not be dismissed as part of the physiological ageing process, and needs to be investigated.[18]

1.2.4 Aetiology of unintentional weight loss

UWL is often encountered in older adults, with a higher prevalence in those residing in LTCFs.[19] UWL is defined as involuntary decline in total body weight over time.[2] The most frequently used definition for clinically significant weight loss is a decrease of at least 5% of usual body weight over a period of 6 to12 months.[19]

Terminology that is often used in association with weight loss in older adults includes ”sarcopenia” (decreased reserves of lean body mass and strength), ”wasting” (gradual loss of body weight associated with an inadequate dietary intake), and “failure to thrive” (disease-related loss of weight and physical function).[18,20] ”Cachexia” is defined as excessive weight loss with pathological muscle wasting and occurs secondary to chronic diseases such as chronic pulmonary disease, cancer and congestive heart failure.[20]

The exact mechanism for weight loss is not always known and for many individuals it may be multifactorial.[19] The causes of unintentional weight loss can be divided into physiological, psychosocial and organic aetiologies.[2,21] However, there are also a variety of organisational factors that can contribute to unintentional weight loss in the institutionalised older adult.[22,23] In up to 25% of individuals no identifiable cause is determined.[2]

The conceptual framework below was compiled from current literature to illustrate the complexity of UWL in older adults (Figure 1.1).

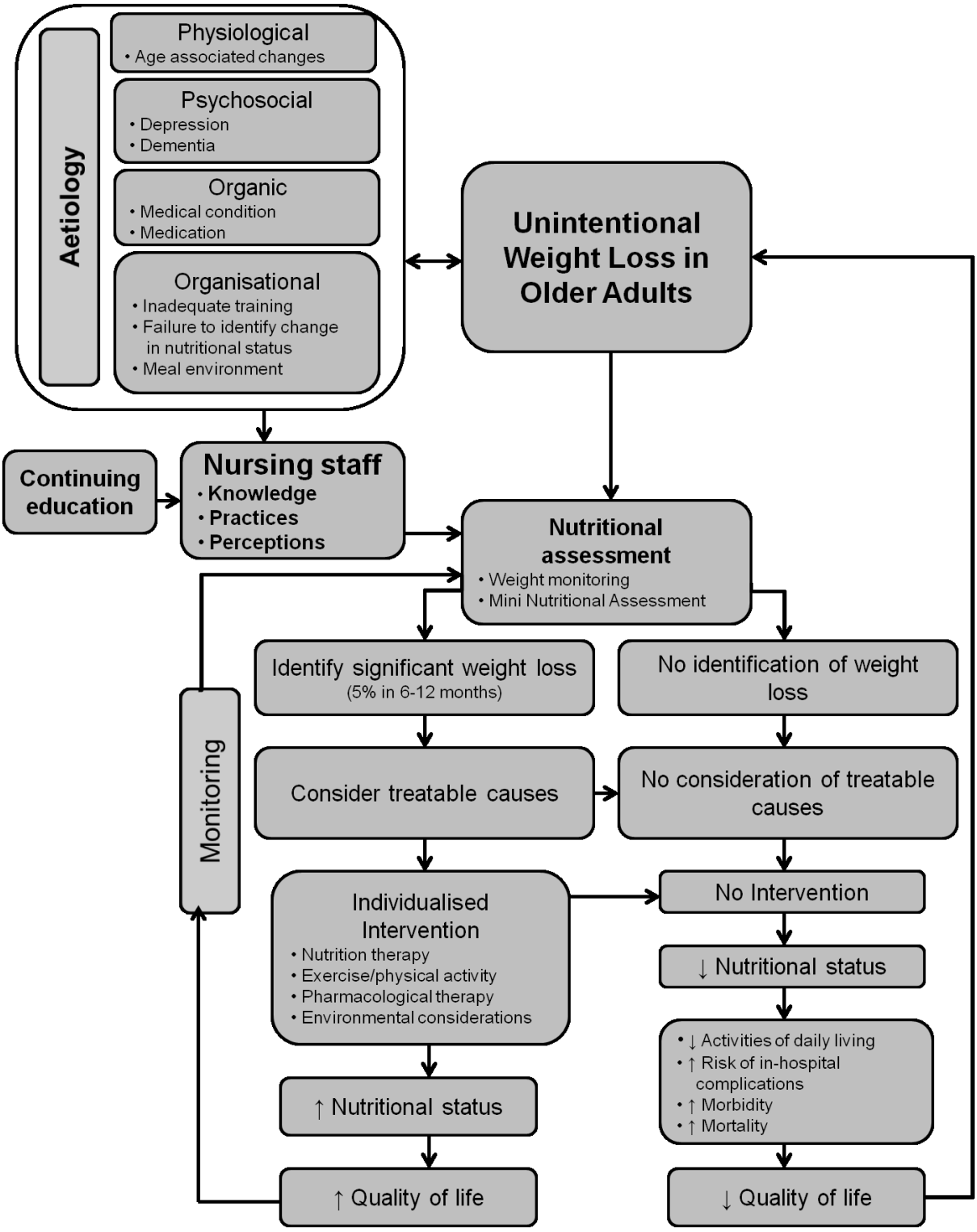

Figure 1.1: Conceptual framework of unintentional weight loss in older adults residing in long-term care facilities[2,18,19,22,24,25]

Factors that can contribute to the aetiology of UWL are discussed below.

1.2.4.1 Physiological factors

Several age-related physiological changes, such as alterations in the neuroendocrine axis, reduced smell and taste perception, decreased chewing efficiency and slowed gastric emptying predispose the older person to weight loss. These changes are associated with early satiety and a reduced appetite and contribute to "anorexia of ageing".[2]

1.2.4.2 Psychosocial factors

A decreased income or state of poverty, living alone, social isolation or a lack of a support network are all social factors that can contribute to weight loss. Psychological factors such as alcoholism, bereavement, and the presence of depression and dementia can also play a role. These factors can contribute to weight loss due to reduced access to food and/or a lowered food intake in general.[26] Psychiatric conditions have been found to contribute to 9-42% of UWL in older adults.[2] Studies have identified depression as one of the most prevalent underlying factors contributing to UWL. While up to 50% of older adults with dementia in LTCFs experience UWL, weight loss may also precede the diagnosis of dementia.[27]

1.2.4.3 Organic factors

According to a review article the organic aetiologies most frequently identified in persons that present with UWL are as follows (in order of frequency): malignancies (16-36%), gastro-intestinal disease (6-19%), endocrine disorders (especially hyperthyroidism) (4-11%), cardiovascular disease (2-9%), respiratory disease (~ 6%), neurological disorders (2-7%), chronic infection (2-5%), renal disease (~ 4%), connective tissue disease (2-4%) and medication side effects (~ 2%).[2] Weight loss because of medical reasons is effectuated through several factors including anorexia, early satiety, increased metabolism, malabsorption, increased cytokine levels and impaired functional status. Medical conditions are treated with prescription medication that can also increase the risk of malnutrition through various possible side effects. These adverse effects include nausea/vomiting, anorexia, hypogeusia, early satiety, dysphasia, diarrhoea, constipation and hyper-metabolism.[26]

1.2.4.4 Organisational factors

The risk of malnutrition in older adults residing in LTCFs is associated with factors such as inadequate training[22,23] and education of staff in combination with poor management

structures[22], understaffing, lack of time and poor communication between different levels of staff.[23]

Other factors that have been identified are failure to identify UWL and/or malnutrition and the level of involvement of a registered dietitian.[22] Apart from the quality and quantity of food[23], factors regarding the meal environment that need to be considered to maintain adequate nutrition of older adults include appropriate and sufficient assistance at mealtimes, enough time to eat, a meal environment free from noise, distractions and offensive odours as well as appropriate cutlery, furniture and seating arrangements.[22] Improved contrast, increased lighting and a reduction of glare are additional examples of environmental changes that can facilitate independence in eating, and improve overall dietary intake as well as functional abilities.[28] Organisational barriers that play a role in identifying and managing unintentional weight loss are referred to in Section 1.3.5.

1.2.5 Prevalence and consequences of unintentional weight loss

Literature indicates that UWL is encountered in approximately 13% of older adult outpatients and in up to 50 to 60% of older adults in LTCFs.[21] UWL is associated with negative outcomes such as the increased risk of mortality and in-hospital complications, pressure ulcers, reduced wound healing, declined abilities with regards to activities of daily living, and poorer quality of life.[2,21] A retrospective study by Ryan and Bryant found a fivefold increase in mortality for institutionalised older adults that lost more than 5% of weight in a month.[11] A review article stated that malnutrition, represented by a weight loss greater than 10%, is associated with impaired physiological functioning. Severe protein-energy malnutrition or weight loss of more than 20% is associated with significant organ dysfunction.[21] Furthermore, the cumulative effect of low body weight and weight loss are powerful predictors of morbidity, the response to medical therapy as well as mortality.[21]

1.3 IDENTIFICATION AND MANAGEMENT OF UNINTENTIONAL WEIGHT LOSS AND MALNUTRITION IN OLDER ADULTS RESIDING IN LONG-TERM CARE FACILITIES

1.3.1 The importance of nutritional assessment

Nursing staff have a legal and ethical responsibility towards vulnerable older adults in their care, to protect them from increased morbidity (even mortality) and decreased quality of life, through accurate and timely nutritional assessment and individualised nutritional care.[29]

Routine nutritional assessment of older adults will promote early identification of UWL and/or malnutrition, earlier intervention, prevention of poor nutritional status and avoidance of the subsequent negative outcomes, which include decreased functional status, delayed healing and pressure sores. Hence, nursing staff working in LTCF need to be knowledgeable with regards to the assessment of possible changes in the nutritional care needs of residents.[29]

Comprehensive nutritional assessments may be deemed time consuming and thus not performed routinely at most LTCFs. Body weight, however, is a simple, widely accepted measurement which is documented at many LTCFs.[11] The determination of weight loss, through regular measurement and recording of body weight, is an important indicator of malnutrition risk and can be used to monitor a change in the nutritional status of the older adult in a cost-effective manner.[22]

1.3.2. Nutritional screening and assessment tools used in long-term care facilities for older adults

There are several tools available to screen or assess an older adult's nutritional status, such as Body Mass Index (BMI) and the MNA. Other available tools are mentioned briefly.

BMI can be useful in assessing an individual's nutritional status. The World Health Organisation (WHO) defines a healthy body weight for adults as a BMI between 18.5-24.9kg/m^2. This range is based on a reduced mortality risk, but studies were primarily based on younger adults with an increased risk of mortality due to diseases such as diabetes and cardiovascular disease which are associated with increased body weight.[30] The WHO does however recommend that only a BMI of 30 kg/m^2 and above needs to be regarded as overweight in relation to older adults due to several factors affecting this value.[31] A recent meta-analysis of 32 studies (n=197 940) determined the association between BMI and all-cause mortality for adults ≥ 65 years of age. Risk of mortality was found to increase with a BMI < 23 kg/m^2, while overweight was not found to be associated with an increased risk of mortality. Regular weight monitoring of older adults with a BMI < 23 kg/m^2 is therefore advisable to detect weight loss early and to identify and address modifiable causes.[32]

The MNA is the best validated and most widely used and recommended screening tool for the assessment of malnutrition in older adults in LTCFs.[33] The original MNA is able to classify older adults as "well nourished", "at risk of malnutrition" or "malnourished".[34] However, it has been argued that this 18-item questionnaire is of limited use for screening due to its length. Therefore, the Mini Nutritional Assessment Short Form (MNA SF) was developed as a screening tool. This 6-item questionnaire is quick and simple and has been

proven to retain good diagnostic accuracy and high correlation with the full MNA and could thus be used proactively in a time and cost-effective manner to identify older adults at risk of malnutrition.[35] It is, however, recommended that the comprehensive MNA - screening followed by the assessment section - is completed for individuals identified as being at risk. Except for guiding nutritional interventions, the MNA can also be used to evaluate the effectiveness of implemented interventions.[24]

Other available non-invasive, practitioner-administered nutritional screening tools for older adults include the Subjective Global Assessment (SGA),[36] the Nutrition Screening Initiative (NSI) level 1 screen [37] and the Malnutrition Universal Screening Tool (MUST).[38] The NSI level 1 screen includes the assessment of BMI, dietary habits, living environment as well as functional status to determine the risk of malnutrition, with referral to a physician for the level 2 assessment if indicated.[37] The MUST is a five-step screening tool to identify adults who are malnourished, at risk of malnutrition and obese and includes management guidelines dependant on an individual's overall risk of malnutrition. Risk is determined by BMI, percentage of UWL and the presence of acute illness.[38] The SGA assesses the nutritional status of an individual based on features of their history (change in weight, change in dietary intake, gastrointestinal symptoms, functional capacity, nutritional requirements in relation to disease) and physical examination (signs of malnutrition). This assessment results in the classification of nutritional status as well-nourished, moderately (or suspected of being) malnourished or severely malnourished. The SGA, however, is not useful for the early detection of malnutrition as it is dependent on physical signs of malnutrition.[36]

1.3.3. Strategies to address unintentional weight loss

The first priority in managing UWL is to screen for potential risk factors contributing to weight loss. This should involve a comprehensive history and physical examination and assessment of medication currently used by the older adult.[39] These risk factors may include potentially life-threatening diseases, such as cancer, as well as chronic or reversible medical conditions.[40] The ensuing objective would be to treat or manage contributing conditions and/or factors if present.[2] Prompt intervention based on assessment results will provide the best outcome.[21] Due to weight loss as well as low body weight, both being risk factors for mortality regardless of the underlying aetiology, the benefit of the treatment thereof needs to be considered.[41]

Several non-pharmacological interventions (Box 1.1) can be considered to address UWL in older adults.[2,25,40] Individualised care plans for older adults are recommended to improve optimal nutritional nursing care.[39,42] It would be prudential to involve allied health

professionals with the management of nutritional related aspects in addressing UWL of the individual, such as dietitians and speech therapists, depending on the relevant factors contributing to weight loss.[2,27,43]

Box 1.1: Non-pharmacological interventions to address unintentional weight loss in older adults[2,25,40,44]

- Ensure adequate oral health
- Ensure that food texture suits chewing and swallowing ability
- Minimise dietary restrictions
- Increase energy intake by serving:
  - Smaller meals more often
  - Favourite foods and snacks
  - Finger foods (to individuals with dementia)
  - Energy-dense foods at main meal of the day
  - Increase the protein and energy intake by fortifying foods (add milk, milk powder, cheese, butter/margarine or powdered nutritional supplement to food)
- Provide nutritionally dense supplements between meals (not within 60 minutes prior to a meal)
- Use flavour enhancers
- Avoid gas-producing foods
- Encourage older adults to eat in company with others
- Serve family style meals in a home-like environment
- Give assistance at mealtimes for individuals with physical or cognitive disabilities
- Encourage participation in regular physical exercise
- Use micronutrient supplements where a specific nutrient deficiency has been identified

1.3.4. Current literature on knowledge, perceptions and practices of nursing staff with regards to unintentional weight loss in older adults residing in long-term care facilities

Published literature suggests that nursing staff do not have sufficient knowledge regarding nutrition of older adults. The instruments used in the studies assessing nutrition knowledge mentioned below, included knowledge questions on several aspects of nutrition for older adults in LTCFs and did not only focus on UWL in older adults.[45-49]

Stanek et al. (1991) reported a mean score of 60% (n=95) on a 15-item questionnaire[46], while a mean knowledge score of 64% (n=71) was showed by Lindseth (1994) on a 50-item questionnaire adapted from Sabry et al.[49] Crogan et al. (2001) reported a mean knowledge score of 65% (n=44) on a 50-item questionnaire.[45] Similarly, Penland (2010) found a mean score of 64% (n=101) on a 28-item adapted version of the questionnaire used by Crogan et al.[47] In a more recent survey by Beattie et al. (2013), using a 10-item multiple-choice questionnaire, all categories of staff obtained a mean knowledge score of only 47% (n=76), with nursing staff achieving a slightly higher mean score of 55%.[48]

In relation to the studies mentioned above, Crogan et al. and Penland found registered nurses to score statistically significantly higher in comparison to licensed practical nurses.[45,47] There was a tendency for nutrition knowledge scores to increase with education level in the survey by Beattie et al., but it was not statistically significant.[48] In contrast, the studies by Stanek et al.(1991) and Lindseth (1994) did not find any relationship between the knowledge of nursing staff and their level of nursing education.[46,49]

Crogan et al. found that nutritional assessment activities were indicated as an important practice by 84% of sampled nursing staff, but only 59% conducted these assessments.[45] Similarly, 83% of participants in the study by Beattie et al. considered nutritional assessment as an important practice, but only 53% indicated that they perform nutritional assessment activities.[48] In another study by Munch et al. (2006), 32% felt that older adults with a standard weight should be weighed once a month, while just 13% indicated that they conducted this practise.[50]

The above-mentioned literature indicates that nursing staff caring for older adults feel they have a responsibility for nutritional assessment and care, but that they lack sufficient knowledge to implement best practices.[45,48,50]

A study by Bachrach-Lindstrom et al. (2007) assessed the attitudes of 252 nursing staff with regards to nutritional care. Fifty-three percent of nursing staff displayed a positive attitude, while the rest displayed a neutral or negative attitude towards factors of importance for nutritional nursing care. Registered nurses had a significantly higher positive attitude in comparison to nursing assistants. The highest level of positive attitudes was reflected towards statements regarding interventions that deal with nutritional problems and how to manage them. The lowest frequency of positive attitudes was found towards statements about norms, indicating that nursing staff were in favour of routines and limited involvement of residents with mealtimes.[51]

A study conducted by Brown and Copeman (2008), showed that staff generally relied more on subjective judgement to identify malnourished residents, despite using a nutritional screening tool. Participants did, however, have the perception that they were effective in identifying and addressing malnutrition. Staff at all levels also considered older people having a poor appetite as a "normal" part of ageing. Furthermore, participants had the opinion that it was to be expected that older adults with conditions like Parkinson's disease would lose weight.[52]

Crogan and Schultz (2000) have identified several perceived barriers which nursing staff experience with regards to nutritional care of residents (such as lack of time to assist residents with meals and inadequate quality and quantity of meals), which will be explored further in Section 1.3.5.[53]

Suominen et al. conducted a study where the nutritional status of 1 043 elderly people in all the LTCFs in Helsinki, Finland was assessed. In this study the MNA indicated that 56.7% of people were malnourished, whereas nurses only identified 15.2% of people as malnourished. Those individuals that they recognised as malnourished had a mean BMI of 17.2 kg/m^2. Nutritional interventions for residents that nurses considered as malnourished were also poor, with only a small percentage receiving oral nutritional supplements or snacks.[14] Abbasi and Rudman also found a lack in the identification of underweight in older adults by physicians or nurses.[54] Reasons for not initiating interventions to prevent or reverse weight loss may be because weight loss is perceived as a normal part of the ageing process or that weight loss is attributed to chronic health conditions.[55]

There is an urgent need for nutrition education for nurses to empower them to address malnutrition and weight loss, as the benefits of early nutritional intervention are well established.[14] Nutrition education has been identified to have a positive impact on the

practices of nursing staff working at LTCFs for older adults, as well as on the outcome for residents.[56,57]. A study by Suominen et al. (2007) highlighted the benefits of a nutrition education programme and found that residents' mean energy and protein intake, as well as their MNA results, were positively impacted by education of staff working at the facility.[57] An earlier study by Riviere et al. (2001) also indicated that a nutrition education programme consisting of nine sessions over a one-year period for caregivers of residents with Alzheimer's disease, had a positive effect on residents' weight, mood and cognitive function.[56]

Nursing staff play a vital role in the identification and management of older adults who are malnourished or at risk of malnutrition. Sufficient knowledge and a positive attitude to nutritional care might delay the development of malnutrition or slow the progression of an already malnourished older adult's condition.[51]

1.3.5 Barriers to optimal nutritional care

Literature has indicated several barriers to good nutritional care of older adults residing in LTCFs. Aspects of nursing staff's knowledge, perceptions and practices, as well as organisational and managerial factors, have been found to hinder optimal nutritional care and possibly contribute to UWL in older adults in LTCFs. These barriers are summarised below in Box 1.2.

Box 1.2: Barriers to optimal nutritional care[14,22,23,48,51-54]

- Lack of knowledge and training of nursing staff
- Poor knowledge of nutritional assessment
- Being unaware of residents' feeding issues
- Suboptimal attitude towards nutritional nursing care
- Lack of time
- Working short-staffed
- Poor communication
- Lack of teamwork between different categories of nursing staff
- Confused role expectations
- Lack of the involvement of a dietitian
- Lack of clear protocol and action planning, including implementation of nutrition interventions
- Subjective judgement of malnutrition
- Quality and quantity of food served to older adults
- Meal environment with noise, distractions and offensive odours
- Inappropriate cutlery, furniture and seating arrangements

1.4 CONCLUSION AND MOTIVATION FOR STUDY

Available literature indicates that nursing staff working in LTCFs do neither recognise nor effectively address UWL in older adults due to various barriers. If significant UWL and the subsequent decrease in nutritional status are not identified early and investigated further, the necessary interventions will not be implemented to improve the nutritional status of older adults at risk of malnutrition. If undetected and untreated, this can have a negative impact on the individual's quality of life and can lead to severe consequences, such as increased hospital stay, higher risk of infection, pressure ulcers, reduced wound healing, increased morbidity and mortality, as well as increased cost of care.

The reason for the proposed research is to find out what the knowledge, perceptions and practices of nursing staff in selected LTCFs in the Cape Metropole are with regards to UWL as there is currently no information available on this subject. The results of the study will highlight barriers which can be translated into recommendations to address the lack of optimal identification and management of UWL in LTCFs for older adults in the Cape Metropole.

CHAPTER 2: METHODOLOGY

2.1 RESEARCH AIM AND OBJECTIVES

2.1.1 Research aim

To determine the knowledge, perceptions and practices of nursing staff working in long-term care facilities (LTCFs) with regards to unintentional weight loss (UWL) in older adults residing in LTCFs in the Cape Metropole.

2.1.2 Objectives

2.1.2.1 Primary objective

- To determine the knowledge, perceptions and practices of nursing staff regarding the identification and management of UWL in older adults residing in LTCFs in the Cape Metropole.

2.1.2.2 Secondary objectives

- To compare the knowledge, perceptions and practices of the different categories of nursing staff.
- To compare the knowledge, perceptions and practices of nursing staff in subsidised and non-subsidised LTCFs.
- To identify barriers that nursing staff experience in the identification and management of UWL in older adults in LTCFs in the Cape Metropole.

2.1.3 Hypotheses

- $H_{0:}$ There is no difference between the knowledge, perceptions and practices of the different levels of nursing staff.
- $H_{0:}$ There is no difference in the knowledge, perceptions and practices of nursing staff in subsidised and non-subsidised LTCFs.

2.2 STUDY PLAN

2.2.1 Study design

A cross-sectional, descriptive study design with an analytical component was used.

2.2.2 Study population

The study population consisted of nursing staff caring for adults 65 years and older residing in LTCFs in the Cape Metropole.

For the purpose of this study nursing staff were categorised in the following four levels:

- Professional nurse (registered nurse),

- Staff nurse (enrolled nurse),
- Nursing auxiliary (enrolled nursing auxiliary/assistant nurse),
- Caregiver.

The Charter of Nursing Practice (South African Nursing Council, 2009) defines the categories of nurses and types of nursing care as described in Table 2.1.[4]

Table 2.1: Categories of nurses and type of nursing care

A **professional nurse** is a person who:	A **staff nurse** is a person who:	A **nursing auxiliary** is a person who:
• Is educated and competent to practice **comprehensive** nursing (general, community, midwife and mental health) independently • Assumes responsibility and accountability for such practice • Is registered and licensed as a professional nurse under the Nursing Act	• Is educated and competent to practise **basic** nursing independently • Assumes responsibility and accountability for such practice • Is registered and licensed as a staff nurse under the Nursing Act	• Is educated and competent to practise **elementary** nursing independently • Assumes responsibility and accountability for such practice • Is registered and licensed as a nursing auxiliary under the Nursing Act
Comprehensive nursing is interventions that integrate and apply the scientific process of the full range of nursing that promote and maintain the health status of all healthcare users in **all contexts of healthcare delivery.**	**Basic** nursing is interventions that promote and maintain the healthcare user's health status through the application of the scientific process of **general nursing**.	**Elementary** nursing is interventions that assist the healthcare users to promote and maintain their health status through the application of the scientific process of **fundamental nursing**

Adapted from the Charter of Nursing Practice (South African Nursing Council, 2009)[4]

A **caregiver** is not classified as a nurse and does not fall under the supervision of the South African Nursing Council (SANC), as their training is not currently standardised. They are used as providers of personal care, whereas the other categories are recognised as nurses actively doing what is defined as nursing according to each category's scope of practice. However, for the purpose of this study, caregivers were included as one of the categories of nursing staff.

2.3 STUDY POPULATION

2.3.1 Sample selection

For the purpose of this study LTCFs were defined as facilities caring for older adults, classified according to the older adult's level of independence as category 2 (needs assistance with some activities of daily living) and category 3 (needs 24 hours nursing supervision and care).[3]

The following information was used to compile the population framework:

- List of subsidised LTCFs available from the Department of Social Development,
- Lists of LTCFs managed by the following organisations: Cape Peninsula Organisations for the Aged, ACVV (Afrikaanse Christelike Vrouevereniging, translated in English as Afrikaans Christian Women Society) and Badisa,
- LTCFs listed on www.seniorservice.co.za,
- LTCFs on GERATEC's database (Acronym for Gerontological Research, Training, Education and Catering Company)

Contact was also made with the Department of Health to enquire whether they could assist in supplying a list of non-subsidised LTCF's in the Cape Metropole area. Unfortunately they did not have access to the information needed as only LTCFs with sub-acute facilities were registered with the Department of Health.

After taking all available information into consideration, there were 54 subsidised- and 96 non-subsidised LTCFs that qualified for inclusion in the sampling frame. The sampling frame was divided into two groups, subsidised- and non-subsidised facilities, depending on whether or not facilities were receiving a subsidy from the Department of Social Development.

Nursing staff working at the identified facilities were selected as participants in the study.

2.3.2 Sample size

Sample size calculated with the assistance of the Centre for Statistical Consultation, University of Stellenbosch, was as follow:

- To compare the continuous or ordinal responses of participants of subsidised and non-subsidised LTCFs, irrespective of their nursing staff category, a minimum of 44 participants from each of the two groups was required to have 90% power to detect an effect size (Root Mean Square Standardized Effect (RMSSE)) of 0.5.

- To compare the continuous or ordinal responses from the different categories of nursing staff with each other, irrespective of whether they represent a subsided or non-subsidised LTCF, a minimum representative sample of 20 study participants of each of the categories of nursing staff was required to have 90% power to detect an interaction effect size (RMSSE) of 0.5.

2.3.3 Inclusion criteria

- All categories of consenting nursing staff from selected LTCFs were included:
  - Professional nurse (registered nurse),
  - Staff nurse (enrolled nurse),
  - Nursing auxiliary (enrolled nursing auxiliary/assistant nurse),
  - Caregiver.
- Male and female nursing staff of all ages
- Nursing staff from both day shifts

2.3.4 Exclusion criteria

- Facilities with less than 25 residents who needed full- or part-time assistance (category 2 and 3)
- Non-consenting nursing staff
- Nursing staff not working in LTCFs caring for older adults classified as category 2 and/or 3
- Nursing staff who could only speak a language other than English, Afrikaans or Xhosa
- Nursing staff who have been employed at the current facility for less than two months were excluded from the study because they would not necessarily have sufficient experience in caring for older adults within the facility to answer questions accurately.
- Nursing staff who worked night shift at the time of data collection
- Nursing staff working at LTCFs that participated in pilot study

2.3.5 Sampling method

LTCFs to be incorporated in the study were selected by simple random sampling from the population framework that included a list of subsidised and non-subsidised LTCFs. The number of facilities included in the study depended on the number of nursing staff available for inclusion as participants in each selected facility. The researcher continued to randomly select LTCFs from the population framework with the aim to obtain the required number of nursing staff within the different categories as specified under 2.3.2. The one subsidised-

and one non-subsidised facility that took part in the pilot study was excluded from sample selection.

2.4 METHOD OF DATA COLLECTION

2.4.1 Development of questionnaires

The researcher designed a facility questionnaire (Addendum A) and a nursing staff questionnaire (Addendum B) to obtain data. The content of questionnaires was based on current available literature on UWL, nutritional assessment and nutritional care of older people.

The questionnaires were available in Afrikaans and English. Due to budgetary constraints and the fact that most LTCFs expect nursing staff to complete daily documentation with regards to nursing care in English or Afrikaans, the questionnaires were not translated into Xhosa. The researcher assumed that most nursing staff would be able to read and complete the English or Afrikaans nursing staff questionnaire. However, a Xhosa-speaking translator would have been available for nursing staff that wanted to participate in the study but did not understand English or Afrikaans.

Both questionnaires were tested in the pilot study (refer to section 2.4.4) for face and content validity before being used in the main study.

The **facility questionnaire** consisted of 19 questions that were completed by the researcher during an interview with both the manager of the facility and the most senior nursing staff member. Approximately 30 minutes were required for an interview.
Questions on the following aspects of the facility were included:

- General questions: type of facility, number of residents in the different categories, meals (3 closed-ended questions),
- Available instruments to assess weight and height (1 closed-ended question with open ended subsections),
- Current practices with regards to nutritional status assessment, depression risk assessment and oral health examinations of residents (5 closed-ended questions with open ended sub sections at three questions),
- Physical exercise programme for residents (1 closed-ended question with open-ended subsection),
- Dietetic support service (1 closed-ended question with open-ended subsections),

- Use of nutritional interventions to address UWL (3 closed-ended questions with an open-ended subsection at one question),
- Documentation of nutritional assessment, supplementation and use of individualised care plans (5 closed-ended questions with open-ended subsections at three of the questions).

In addition to the open-ended subsections at ten of the questions, nine closed-ended questions gave the opportunity to select and then specify the 'other' option instead of the listed choices.

The purpose of the facility questionnaire was to get information regarding participating facilities' backgrounds, demographics and policies regarding relevant nursing practices which were also tested in the nursing staff questionnaire. Comparisons of these results which provided additional information or flagged differences in results from the nursing staff questionnaire will be reported.

The **nursing staff questionnaire** was a self-administered questionnaire consisting of 48 questions. Participants took approximately 30 minutes to complete the nursing staff questionnaire. Four of the 15 perception questions in the nursing staff questionnaire were adapted from the Staff Attitudes to Nutritional Nursing Care Geriatric scale (SANN-G).[51] The questions in the questionnaire aimed to obtain data on nursing staff's current knowledge, practices, perceptions and barriers with regards to the identification and management of UWL in the older adult residing in LTCFs.

The following questions were included in the nursing staff questionnaire:

- General information (5 closed-ended questions),
- Knowledge regarding UWL and body mass index (7 closed-ended questions),
- Perceptions regarding nutritional status and UWL (16 questions). Perceptions were measured with a 4-point Likert scale ranging between 1 (strongly disagree), 2 (disagree), 3 (agree) and 4 (strongly agree). An even number of options was used to prevent participants from selecting a neutral response.
- Practices regarding nutritional assessment and the identification and management of UWL (20 closed-ended questions with open-ended subsections at five of the questions),
- There was not a specific section with questions on barriers regarding the identification and management of UWL. However, barriers were identified from the data obtained from the participants' answers on the knowledge, perception and practice questions. Open ended questions were also reviewed to identify emerging themes.

In addition to the open-ended subsections at five of the questions, six closed-ended questions gave the opportunity to select and then specify the 'other' option instead of the listed choices.

2.4.2 Methods

The researcher contacted managers of selected facilities telephonically to inform them of the study and to invite them to take part. In the instance where a facility fell under the management of an organisation or governing body, they were contacted and written permission obtained (if applicable) before the researcher made contact with the selected facility.

The telephonic conversation was followed by an email or fax to the selected facility manager to explain the purpose and extent of the research study. Appointments were scheduled with all managers of facilities that were interested to take part in the study. Written informed consent (Addendum C) was obtained from facility managers before any questionnaires were completed. Facilities were visited twice in order to include nursing staff from both day shifts. Data was collected from 16 May to 19 August 2013.

Originally a period of one month was allocated to collect data. Data collection did however take much longer than expected. Reasons for this included that managers of some facilities had to wait for the next board meeting to get permission to take part in the study. The researcher also tried to accommodate participating facilities by visiting them on days and during time slots most convenient to them and with the smallest impact on their operational activities.

The facility questionnaire was completed by the researcher during an interview with the manager and the most senior nursing staff member of the facility. The interview took place in the office of the facility manager.

The manager of the facility or most senior nursing staff member briefed eligible nursing staff about the research study and the invitation to participate. The facility manager arranged the logistics of when and where the researcher would meet with nursing staff to obtain consent and for the completion of the questionnaires. It was agreed that nursing staff participants would gather in a quiet room equipped with tables and chairs. The researcher explained the reason for the research study, as well as the content of the informed consent form (Addendum D) to nursing staff. All willing participants were asked to complete the consent forms after queries were clarified.

After consent forms were signed by the participants, the researcher explained how the nursing staff questionnaire had to be completed. The researcher remained in the room while participants were completing the questionnaire to be available for any questions relating to the questionnaire, but also to make sure that individuals did not discuss questions with each other.

If an English or Afrikaans-speaking nursing staff member wanted to take part in the study but could not read or write English or Afrikaans fluently, the researcher was willing to ask the questions to the participant and complete their questionnaire on their behalf.

2.4.3 Standardisation

A research assistant was available to help with data collection. The research assistant would have received training from the researcher to ensure standardisation of data collection. However, the researcher did not make use of a research assistant after additional time was set aside to collect data.

If a Xhosa-speaking nursing staff member wanted to take part in the study but could not speak, read or write English or Afrikaans, a Xhosa-speaking translator would have been arranged and trained to assist. The training would have focused on following the correct procedure to ask questions and obtain answers, without influencing the documented answers offered by the participant. However, all participants understood English and/or Afrikaans and no translator was needed to collect data.

2.4.4 Pilot study

A pilot study was conducted after the Health Research Ethics Committee of Stellenbosch University had approved the protocol.

The pilot study was conducted to identify any constraints when following the proposed methodology, to establish time required to complete the facility interview and nursing staff questionnaire and to test questionnaires as research instruments for face- and content validity.

The pilot study was conducted at one subsidised and one non-subsidised LTCF similar to the study population from 4 to 6 May 2013. The same methodology and procedures as described for the main study (refer to Section 2.4.2) was followed.

The researcher completed a facility questionnaire at each of the facilities. At both facilities at least one nursing staff member from each category was asked to complete the nursing staff questionnaire. Both facilities were visited on another day to repeat the data collection procedure with the alternate day shift of the nursing team. Minor changes were made to both questionnaires after the pilot study (refer to Section 2.4.5.1.2).

There were no staff nurses employed at the non-subsidised facility. Table 2.2 summarises the number of nursing staff within the different categories that were part of the pilot study population.

Table 2.2: Summary of pilot study population (n=16)

Type of facility	Number of facilities	Professional nurses	Staff nurses	Nursing auxiliaries	Caregivers	All nursing staff
Subsidised	1	4	2	2	2	10
Non-subsidised	1	2	-	2	2	6
Total	2	6	2	4	2	16

2.4.5 Validity and reliability of the study

2.4.5.1 Validity

Katzenellenbogen et al. defines validity as "the extent to which a measure actually measures what it is meant to measure".[5] The research instrument used to collect data was assessed for content and face validity before commencement of the study. A representative sample of the population of LTCFs for older people in the Cape Metropole was drawn with the help of the Centre for Statistical Consultation, University of Stellenbosch, to ensure that the findings of the study would be a reasonable representation of the population.

2.4.5.1.1 Content validity

Content validity requires that the measure accounts for all relevant aspects of the study area.[5] Content validity of the research instrument was assessed with the input of experts in the field of nutrition and nursing. A registered dietitian with experience in nutrition and other nutritional related aspects in older adults residing in LTCFs, as well as a professional nurse with a doctorate in nursing and a special interest in geriatrics assessed the content validity of

both questionnaires. Minor changes were made to the questionnaires, incorporating the feedback from the experts. This was done before conducting the pilot study.

2.4.5.1.2 Face validity

Face validity refers to the degree to which the measure or question makes sense to participants on a subjective level.[5] Face validity of the research instrument was assessed during the pilot study (refer to Section 2.4.4). This was done to identify any problems with the terminology, phrasing of questions or the completion of the questionnaire by the participants.

Some questions in the nursing staff questionnaire were rephrased after taking feedback from the pilot study participants into consideration. Concepts that a few participants either commented on or were uncertain of included "institutionalised", "unplanned weight loss", "increased mortality (death)", "Explain how the change in residents' weight is identified?" and "less-restrictive diets (for people on a special diet)". No additional questions were added to the nursing staff questionnaire. None of the participants mentioned that they experienced any problems with the font size or appearance of the questionnaire.

The facility questionnaire was supplemented with two additional questions to gain information on facilities' documentation of nutritional assessment and use of nutrition interventions to address UWL. A third question was adapted to not only ask about the frequency of use of individualised nutrition care plans at facilities, but also to enquire about the use of individualised care plans in general.

2.4.5.2 Reliability

Reliability is defined as "the degree of similarity of the information obtained when the measurement is repeated on the same subject or the same group".[5] The researcher followed the same standard procedure to collect data from all selected facilities as described in Section 2.4.2. There was no inter-observer variation due to the fact that the researcher was the only person that collected data.

2.5 ANALYSIS OF DATA

Questionnaires were captured on MicroSoft Excel (2010) and the captured data was checked by the researcher to eliminate any mistakes. Statistical analysis was done using Stata (College Park, Texas).

Descriptive statistics were used to describe demographic data, the knowledge, perceptions and practices of nursing staff across all categories and analytical statistical methods were used to compare results between nursing staff categories and facility types.

Table 2.3 gives a summary of all the questions from the nursing staff questionnaire (Addendum 2) that was included in the reporting of results within the different areas of knowledge, practices and perceptions of nursing staff.

Table 2.3: Summary of the questions from the nursing staff questionnaire that was included in the results reporting within the different areas of knowledge, practices and perceptions

Area	Question number/s on questionnaire
Knowledge	
Weight loss	6-8, 11, 12
Factors/conditions that can contribute to unintentional weight loss	9
Possible consequences of unintentional weight loss	10
Practices	
Assessment of weight and nutritional status	13-15, 17-19a, 20
Reporting and documentation of decreased food intake and supplementation	21-23, 26a-b
Interventions used to address weight loss	25
Meal choices, eating assistance and nutritional care plans	27-32
Perceptions	
Weight loss	33, 34
Nutritional status	38-40, 42
Meals and eating	43-47
Facility procedures	37
Personal knowledge and abilities regarding specific nutritional aspects	35, 36, 41, 48

Distribution of variables was presented with frequency tables. A bar chart was used to depict the total knowledge score and the scores for the separate knowledge areas between nursing staff across all categories, separate nursing staff categories and facility types. A bar chart was also used to illustrate the differences in the percentage of nursing staff working at subsidised and non-subsidised LTCFs that indicated the use of specific interventions to address UWL in older adults.

An ordinal score was used to quantify participants' responses on perception statements. The following values were used for the ordinal scale: strongly disagree = 1, disagree = 2, agree = 3, strongly agree = 4. The use of an ordinal score made it possible to compare all perception statements for statistically significant differences within the different categories of nursing staff and facility types by making use of non-parametric median tests (using the Chi-square distribution) and Mann-Whitney tests respectively.

Means was used as the measures of central location for continuous responses with normal distributions and standard deviations as indicators of spread. Non-normally distributed variables as well as those measured on ordinal scale were summarised and presented using medians and inter-quartile ranges. The Chi-square test was used to test for association between categorical variables and t-tests or Wilcoxon rank-sum tests to compare medians between groups. A p-value <0.05 indicated statistical significance in hypothesis tests.

2.6 ETHICS AND LEGAL ASPECTS

2.6.1 Health Research Ethics Committee

The protocol was approved by the Health Research Ethics Committee, Faculty of Medicine and Health Sciences, University of Stellenbosch on 22 January 2013 (Project number: S12/11/279) (Addendum E). The study was conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

2.6.2 Department of Social Development and Department of Health

After approval of the protocol by the Health Research Ethics Committee of Stellenbosch University, the researcher contacted officials of both the Western Cape Department of Social Development and Department of Health to find out if the approval from either of these departments were necessary before the commencement of the study. However, no permission was needed from these departments but only from the facility itself or the governing organisation. Approval from the Western Cape Department of Health and/or City Health would have been necessary if data was collected in primary or secondary health care facilities; however, there were no facilities in the study population that fell in this category.

2.6.3 Informed consent

All facility managers and nursing staff willing to participate completed a written informed consent form (Addendum C-D) before taking part in the study. Consent forms were

completed in duplicate so that each participant and the facility had a signed copy of the consent form. In the instance where a facility fell under the management of an organisation or governing body, they were contacted and written permission obtained (if applicable) before the researcher made contact with the selected facility.

2.6.4 Anonymity and confidentiality

A unique participant code was allocated to each participant to ensure anonymity, for data capturing purposes and to allow statistical analysis. Reporting on results has been done anonymously and in groups, with no reference to any participating individuals or facilities.

All selected facilities and individual participants have been ensured, both verbally and by means of the informed consent leaflet, that all information provided to the researcher would be regarded as confidential. The information provided to the researcher will only be used for research purposes and no names of individuals nor facilities or organisations will be mentioned during any presentations or in publications and reports. Reporting on results will only be done in group format, either according to nursing staff category or type of facility.

2.6.5 Voluntary participation

All nursing staff were informed that their participation was entirely voluntary and that they were free to decline to participate at the beginning, or at any point during the study. It was also explained that individuals that preferred not to participate or decided to leave the study, would not be penalised or prejudiced in any way.

CHAPTER 3: RESULTS

The purpose of this chapter is to give the results of nursing staff's knowledge, perceptions and practices regarding the identification and management of unintentional weight loss (UWL) in older adults residing in long-term care facilities (LTCFs) in the Cape Metropole. Within the sections reporting on nursing staff's knowledge, perceptions and practices comparisons will be drawn between the different categories of nursing staff and between different facility types to address the secondary objectives of this study. The last section of this chapter will discuss apparent barriers to nursing staff, as identified by the researcher, in the identification and management of UWL in older adults in LTCFs in the Cape Metropole.

3.1 STUDY POPLUATION

A total of 108 nursing staff, from 15 LTCFs for older adults in the Cape Metropole, took part in the study. The study population included nursing staff from the different categories (professional nurses (n=27), staff nurses (n=20), nursing auxiliaries (n=27) and caregivers (n=34)) within both subsidised (n=8) and non-subsidised (n=7) LTCFs. Two subsidised- and two non-subsidised facilities indicated that they preferred not to take part in the study when they were invited to participate. Three of the four facilities responded that staff had many responsibilities at that stage and would not be able to put time aside to take part in the study. One facility did not give a specific reason for their decision to not partake. Participation by eligible nursing staff in the study was very good. Only one (0.9%) preferred to not take part due to personal reasons.

3.2 DEMOGRAPHIC INFORMATION

The median (25^{th}-75^{th} interquartile range) for all categories of residents in all facilities was 78 (38-122) with most of the residents falling in category 3 (need 24 hours nursing supervision and care) as outlined in Table 3.1.

Table 3.1: Demographic information of long-term care facilities (N=15) for older adults in the Cape Metropole that participated in the study

Long-term care facilities	Total	Subsidised facilities	Non-subsidised facilities
	N (%)	n (%)	n (%)
Number of facilities	15 (100%)	8 (53.3%)	7 (46.7%)
Residents	**median (IQR)***	**median (IQR)***	**median (IQR)***
Total	78 (38 - 122)	87.5 (78 - 130)	38 (34 - 135)
65 years and older	78 (38 - 99)	86 (77 - 99)	38 (34 - 135)
Category 3 (need 24 hours nursing supervision and care)	33 (26 - 56)	55.5 (29 - 88)	30 (20 - 33)
Category 2 (need assistance with some activities of daily living)	10 (4 - 22)	12.5 (7 - 35)	5 (0 - 24)
Category 1 (independent)	1 (0 - 26)	6 (0 - 26)	0 (0 - 102)

* Interquartile range (25^{th} – 75^{th} percentile)

Table 3.2 summarizes the demographic information of the nursing staff that participated in the study. The mean age of the study population was 51±10 years, with a mean age for professional nurses and caregivers of 61±7.1 years and 42±7.6 years respectively. Ninety-eight percent (98%, n=104) of the nursing staff participating in the study were female.

The majority of professional nurses (84%, n=21) indicated that they had a four-year degree or diploma as highest nursing qualification, while 85% (n=17) of staff nurses indicated a two-year certificate as highest nursing qualification. The largest percentage of nursing auxiliaries (53.9%, n=14) indicated a one-year certificate as highest qualification, while 19.2% (n=5) obtained a two-year certificate. Thirty-six percent (n=12) of caregivers only completed a course of three months or less, while 15.2% (n=5) had no formal training.

The mean number of years of participants' experience in the aged care sector were 16±9.8 years with the largest segment thereof (14±9.3 years) at LTCFs for older adults. On average participants had been working at their current employment facility for 9.6±7.4 years.

On average there were fewer staff nurses and nursing auxiliaries employed within non-subsidised LTCFs participating in the study. Four of the seven non-subsidised LTCFs had no staff nurses in their employment. In general, subsidised LTCFs had fewer professional nurses as part of the nursing team. Two of the subsidised LTCFs had only one registered nurse each that was appointed in the position as manager of the facility. Another subsidised

LTCF did not have a full-time registered nurse on the premise but was regularly visited by a registered nurse of the organisation overseeing the nursing team of that facility.

Due to the employment pattern as described above, more professional nurses (59.3%, n=16) were available to partake in the study at non-subsidised LTCFs and more staff nurses (70%, n=14) and nursing auxiliaries (63%, n=17) at subsidised LTCFs.

Three participants preferred not to indicate their age and two did not indicate their gender. Four participants indicated invalid[c] responses for their highest nursing qualification. Three participants that did not want to complete their years of work experience in the different sectors due to the fact that it could give an indication of their age.

[c] Two nursing auxiliaries indicated a 4-year degree and two professional nurses indicated a 2-year certificate as highest nursing qualification.

Table 3.2: Demographic information of nursing staff who participated in the study (N=108)*

	All nursing staff	Professional nurses	Staff nurses	Nursing auxiliaries	Caregivers
	mean ± SD	**mean ± SD**	**mean ± SD**	**mean ± SD**	**mean ± SD**
	N=104	n=27	n=19	n=27	n=31
Age	51 ± 10	61 ± 7.1	51 ± 7.2	53 ± 8.2	42 ± 7.6
Gender	**N (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
	N=106	n=26	n=20	n=27	n=33
Male	2 (1.9%)	0 (0%)	0 (0%)	0 (0%)	2 (6.1%)
Female	104 (98.1%)	26 (100%)	20 (100%)	27 (100%)	31 (93.9%)
Nursing qualification	**N (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
	N=104	n=25	n=20	n=26	n=33
4-year degree/diploma	21 (20.2%)	21 (84%)	0 (0%0	0 (0%)	0 (0%)
3-year diploma/certificate	5 (4.8%)	4 (16%)	1 (5%)	0 (0%)	0 (0%)
2-year certificate	23 (22.1%)	0 (0%)	17 (85%)	5 (19.2%)	1 (3%)
1-year certificate	20 (19.2%)	0 (0%)	2 (10%)	14 (53.9%)	4 (12.1%)
6-months certificate/skills course	13 (12.5%)	0 (0%)	0 (0%)	4 (15.4%)	9 (27.3%)
≤3-months course	14 (13.5%)	0 (0%)	0 (0%)	2 (7.7%)	12 (36.4%)
No formal	6 (5.8%)	0 (0%)	0 (0%)	1 (3.9%)	5 (15.2%)
Unsure	2 (1.9%)	0 (0%)	0 (0%)	0 (0%)	2 (6.1%)
Work experience	**mean ± SD**	**mean ± SD**	**mean ± SD**	**mean ± SD**	**mean ± SD**
Aged care (n=102)	16 ± 9.8	16 ± 8.9	16 ± 8.8	20 ± 13	12 ± 6.8
Aged care in LTCFs (n=103)	14 ± 9.3	13 ± 8.2	16 ± 8.9	18 ± 12	11 ± 7
At current facility (n=104)	9.6 ± 7.4	8.3 ± 7.5	9.1 ± 6	12 ± 8.7	9.1 ± 6.7
Type of facility	**N (%)**	**n (%)**	**n (%)**	**n (%)**	**n (%)**
	N=108	n=27	n=20	n=27	n=34
Subsidised (8 facilities)	60 (55.6%)	11 (40.7%)	14 (70%)	17 (63%)	18 (52.9%)
Non-subsidised (7 facilities)	48 (44.4%)	16 (59.3%)	6 (30%)	10 (37%)	16 (47.1%)

SD = Standard Deviation

* n varies due to the fact that some participants preferred to not complete personal information or provided invalid responses

3.3 THE KNOWLEDGE OF NURSING STAFF REGARDING THE IDENTIFICATION AND MANAGEMENT OF UNINTENTIONAL WEIGHT LOSS IN OLDER ADULTS RESIDING IN LONG-TERM CARE FACILITIES IN THE CAPE METROPOLE

The results of the 24 knowledge questions from the nursing staff questionnaire are presented in the following paragraphs. Included are summaries and comparisons of responses to the various questions, the total knowledge scores, as well as scores for groups of questions relating to specific knowledge areas within the subgroups of nursing staff and different facility types.

3.3.1 Knowledge across all nursing staff categories

The number of correct answers for all the knowledge questions ranged between 7 and 23 out of a possible 24. The mean score for the total group of nursing staff was 14.9 ± 3.6 (62%). Eighty-one percent (n=87) of the participants scored ≥ 50% (12 of 24 questions answered correctly) and 24.1% (n=26) scored ≥ 75% (18 of 24 questions answered correctly).

The mean scores for the subcategories of nursing staff were as follows: 17.2 ± 2.8 (72%) for professional nurses, 16.3 ± 2.2 (68%) for staff nurses, 13.9 ± 3.6 (58%) for nursing auxiliaries and 13.0 ± 3.4 (54%) for caregivers. There was a statistical significant difference ($p<0.001$) in the total knowledge score between the different categories of nursing staff.

3.3.1.1 Knowledge: Weight loss

The correct number of answers for the 5 knowledge questions regarding weight loss in older adults[d] ranged between 0 and 4. The mean score for the total group of nursing staff was 1.9 ±1.0 (38%). Twenty-five percent (n=27) correctly answered 50% (3 of 5) or more of the questions and 6.5% (n=7) answered 75% (4 of 5) and more questions correctly.

More than half of the total nursing staff (57.4%, n=62) agreed that weight loss and wasting is common in older adults in LTCFs; however, 34.3% (n=37) indicated that they did not agree with this statement. Thirty-nine percent (n=42) of participants agreed with the statement that weight loss in older adults could be ascribed to the ageing process and could not be

[d] The term 'older persons' was used in the questionnaire because this is the preferred term used daily by nursing staff; however, 'older adults' will be used in all the tables in this document.

prevented. Only 12% (n=13) correctly indicated that weight loss of 0.1-0.2 kg per year is acceptable for an older adult as part of the ageing process (Table 3.3).

Knowledge of the most reliable indicator to raise concern about weight loss in older adults were inconsistent, with 40.4% (n=42) of participants correctly indicating 'if the older person loses weight according to a scale', while a large number (35.6%, n=37) selected 'when the older person is eating very little' as the most reliable indicator.

In responses to the question: 'Which one of the following criteria indicates significant weight loss in an older adult, enough to raise concern?', only 22.2% (n=24) of nursing staff correctly identified a weight loss of 5% of their weight in 6 to 12 months. Thirty percent (n=32) incorrectly regarded a weight loss of 20% in 6 to 12 months as significant enough to raise concern (Table 3.3).

Table 3.3: Knowledge of nursing staff regarding weight loss in older adults residing in long-term care facilities in the Cape Metropole (N=108)

Question and answer options	Response n (%)				
	All nursing staff (N=108)	Professional nurses (n=27)	Staff nurses (n=20)	Nursing auxiliaries (n=27)	Caregivers (n=34)
Weight loss and wasting is common in older adults residing in long-term care facilities?					
Agree*	**62 (57.4%)**	**15 (55.6%)**	**6 (30%)**	**18 (66.7%)**	**23 (67.7%)**
Disagree	37 (34.3%)	12 (44.4%)	13 (65%)	6 (22.2%)	6 (17.7%)
Unsure	9 (8.3%)	0 (0%)	1 (5%)	3 (11.1%)	5 (14.7%)
Weight loss in older adults can be ascribed to the aging process and can never be prevented.					
Agree	42 (38.9%)	7 (25.9%)	8 (40%)	13 (48.2%)	16 (47.1%)
Disagree*	**60 (55.6%)**	**20 (74.1%)**	**12 (60%)**	**13 (48.2%)**	**15 (44.1%)**
Unsure	6 (5.6%)	0 (0%)	0 (0%)	3 (11.1%)	3 (8.8%)
How much weight loss is acceptable for an older adult as part of the ageing process?					
0.1-0.2 kg per year*	**13 (12%)**	**7 (25.9%)**	**3 (15%)**	**1 (3.7%)**	**2 (5.9%)**
1-2 kg per year	45 (41.7%)	13 (48.2%)	11 (55%)	12 (44.4%)	9 (26.5%)
2-4 kg per year	35 (32.4%)	5 (18.5%)	5 (25%)	9 (33.3%)	16 (47.1%)
4-6 kg per year	15 (13.9%)	2 (7.4%)	1 (5%)	5 (18.5%)	7 (20.6%)

* Correct answer
** N=104; no answer indicated by 1 professional nurse, 1 staff nurse and 2 caregivers

Question and answer options	Response n (%)				
	All nursing staff (N=108)	**Professional nurses (n=27)**	**Staff nurses (n=20)**	**Nursing auxiliaries (n=27)**	**Caregivers (n=34)**
*Which one of the following observations is the most reliable indicator to raise concern about weight loss in an older adult (65 years and older)?***					
When a family member raises concern	3 (2.9%)	0 (0%)	0 (0%)	1 (3.7%)	2 (6.3%)
When the older person is eating very little	37 (35.6%)	11 (42.3%)	4 (21.1%)	8 (29.6%)	14 (43.8%)
When the older person's clothes fit looser than before	22 (21.2%)	5 (19.2%)	6 (31.6%)	5 (18.5%)	6 (18.8%)
If the older person loses weight according to a scale*	**42 (40.4%)**	**10 (38.5%)**	**9 (47.4%)**	**13 (48.2%)**	**10 (31.3%)**
Which one of the following criteria indicates significant weight loss in an older adult (65 years and older), enough to raise concern?					
If they lose 3% of their weight in 6 to 12 months (e.g. a 65 kg person loses 2 kg)	22 (20.4%)	6 (22.2%)	4 (20%)	5 (18.5%)	7 (20.6%)
If they lose 5% of their weight in 6 to 12 months (e.g. a 65 kg person loses 3.25 kg)*	**24 (22.2%)**	**6 (22.2%)**	**5 (25%)**	**4 (14.8%)**	**9 (26.5%)**
If they lose 10% of their weight in 6 to 12 months (e.g. a 65 kg person loses 6.5 kg)	27 (25%)	13 (48.2%)	3 (15%)	5 (18.5%)	6 (17.7%)
If they lose 20% of their weight in 6 to 12 months (e.g. a 65 kg person loses 13 kg)	32 (29.6%)	2 (7.4%)	8 (40%)	11. (40.7%)	11 (32.4%)
None of the above	3 (2.8%)	0 (0%)	0 (0%)	2 (7.4%)	1 (2.9%)

* Correct answer
** N=104; no answer indicated by 1 professional nurse, 1 staff nurse and 2 caregivers

3.3.1.2 Knowledge: Contributing factors to unintentional weight loss

The number of correct answers for the ten knowledge questions regarding factors contributing to UWL (Table 3.4) ranged between 3 and 10 with a mean score of 7.3 ± 1.7 (73%) for the total group of nursing staff. Ninety-five percent (n=103) scored ≥ 50% (at least 5 of 10 questions correct) and 45.4% (n=49) scored ≥ 75% (at least 8 of 10 questions correct).

The majority of nursing staff correctly indicated a decreased appetite (99.1%, n=106), oral problems (94.4%, n=102) and cancer (94.4%, n=102) as contributing factors to UWL. Ninety percent of the participants correctly identified depression and dementia (89.7% (n=96) and 88.9% (n=96) respectively) as factors that could contribute to UWL. Two thirds of participants (69.4%, n=75) also correctly recognised certain types of medication as a possible contributing factor.

A smaller number of participants had knowledge of conditions which do not contribute to UWL, namely hypertension, incontinence and osteoporosis (59.3% (n=64); 63% (n=68) and 47.2% (n=51) respectively). Only 30.6% (n=33) knew that osteoarthritis does not contribute to UWL.

Table 3.4: Knowledge of nursing staff regarding factors that can contribute to unintentional weight loss in older adults residing in long-term care facilities in the Cape Metropole (N=108)

Question and answer options	Response n (%)				
	All nursing staff (N=108)	**Professional nurses (n=27)**	**Staff nurses (n=20)**	**Nursing auxiliaries (n=27)**	**Caregivers (n=34)**
Which of the following conditions or factors can contribute to unwanted weight loss?					
*Depression***					
Yes*	**96 (89.7%)**	**26 (96.3%)**	**18 (90%)**	**23 (85.2%)**	**29 87.9%)**
No	4 (3.7%)	0 (0%)	1 (5%)	3 (11.1%)	0 (0%)
Unsure	7 (6.6%)	1 (3.7%)	1 (5%)	1 (3.7%)	4 (12.1%)
Dementia					
Yes*	**96 (88.9%)**	**25 (92.6%)**	**18 (90%)**	**23 (85.2%)**	**30 (88.2%)**
No	8 (7.4%)	1 (3.7%)	2 (10%)	2 (7.4%)	3 (8.8%)
Unsure	4 (3.7%)	1 (3.7%)	0 (0%)	2 (7.4%)	1 (2.9%)

* Correct answer
** N=107; no answer indicated by 1 caregiver

Question and answer options	Response n (%)				
	All nursing staff (N=108)	Professional nurses (n=27)	Staff nurses (n=20)	Nursing auxiliaries (n=27)	Caregivers (n=34)
Hypertension					
Yes	18 (16.7%)	2 (7.4%)	2 (10%)	9 (33.3%)	5 (14.7%)
No*	**64 (59.3%)**	**20 (74.1%)**	**16 (80%)**	**11 (40.7%)**	**17 (50%)**
Unsure	26 (24.1%)	5 (18.5%)	2 (10%)	7 (25.9%)	12 (35.3%)
Oral problems					
Yes*	**102 (94.4%)**	**27 (100%)**	**20 (100%)**	**24 (88.9%)**	**31 (91.2%)**
No	2 (1.9%)	0 (0%)	0 (0%)	1 (3.7%)	1 (2.9%)
Unsure	4 (3.7%)	0 (0%)	0 (0%)	2 (7.4%)	2 (5.9%)
Osteoporosis					
Yes	27 (25%)	6 (22.2%)	3 (15%)	7 (25.9%)	14 (41.2%)
No*	**51 (47.2%)**	**17 (63%)**	**10 (50%)**	**10 (37%)**	**14 (32.4%)**
Unsure	30 (27.8%)	4 (14.8%)	7 (35%)	10 (37%)	9 (26.5%)
Certain medications					
Yes*	**75 (69.4%)**	**21 (77.8%)**	**15 (75%)**	**15 (55.6%)**	**24 (70.6%)**
No	11 (10.2%)	3 (11.1%)	3 (15%)	3 (11.1%)	2 (5.9%)
Unsure	22 (20.4%)	3 (11.1%)	2 (10%)	9 (33.3%)	22 (20.4%)
Cancer					
Yes*	**102 (94.4%)**	**27 (100%)**	**20 (100%)**	**27 (100%)**	**28 (82.4%)**
No	4 (3.7%)	0 (0%)	0 (0%)	0 (0%)	4 (11.8%)
Unsure	2 (1.9%)	0 (0%)	0 (0%)	0 (0%)	2 (5.9%)
Osteoarthritis					
Yes	47 (43.5%)	8 (29.6%)	10 (50%)	14 (51.9%)	15 (44.1%)
No*	**33 (30.6%)**	**13 (48.2%)**	**5 (25%)**	**7 (25.9%)**	**8 (23.5%)**
Unsure	28 (25.9%)	6 (22.2%)	5 (25%)	6 (22.2%)	11 (32.4%)
*Decreased appetite***					
Yes*	**106 (99.1%)**	**27 (100%)**	**20 (100%)**	**26 (96.3%)**	**33 (100%)**
No	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Unsure	1 (0.9%)	0 (0%)	0 (0%)	1 (3.7%)	0 (0%)
Incontinence					
Yes	21 (19.4%)	3 (11.1%)	4 (20%)	6 (22.2%)	8 (23.5%)
No*	**68 (63%)**	**22 (81.5%)**	**14 (70%)**	**16 (59.3%)**	**16 (47.1%)**
Unsure	19 (17.6%)	2 (7.4%)	2 (10%)	5 (18.5%)	10 (29.4%)

* Correct answer
** N=107; no answer indicated by 1 caregiver

3.3.1.3 Knowledge: Consequences of unintentional weight loss

The correct number of answers for knowledge questions regarding the consequences of UWL ranged between 1 and 9 out of a possible 9. The mean score for the total group of nursing staff was 5.7 ± 1.9 (63%). Seventy-four percent (n=80) achieved ≥ 50% (at least 5 of 9 questions correct) and 31.5% (n=34) achieved ≥ 75% (at least 7 of 9 questions correct).

Most participants correctly recognised decreased quality of life (87.9%, n=94), pressure ulcers (80.4%, n=86), increased infections (78.5%, n=84), increased dependency on others (75.5%, n=80), increased risk of death (70.1%, n=75), as well as falls and hip fractures (70.1%, n=75) as possible consequences of UWL. Fifty-three percent (n=57) identified that Parkinson's disease is not a consequence of UWL, while only 32.7% (n=35) and 25.2% (n=27) respectively indicated dementia and osteoporosis to not contribute to UWL (Table 3.5).

Table 3.5: Knowledge of nursing staff regarding consequences of unintentional weight loss in older adults residing in long-term care facilities in the Cape Metropole (N=108)

Question and answer options	Response n (%)				
	All nursing staff (N=108)	**Professional nurses (n=27)**	**Staff nurses (n=20)**	**Nursing auxiliaries (n=27)**	**Caregivers (n=34)**
When a person loses weight without trying to do so, what consequences can there be for the older adult?					
*Decreased quality of life***					
Yes*	**94 (87.9%)**	**22 (81.5%)**	**19 (95%)**	**25 (96.2%)**	**28 (82.4%)**
No	6 (5.6%)	3 (11.1%)	0 (0%)	1 (3.9%)	2 (5.9%)
Unsure	7 (6.5%)	2 (7.4%)	1 (5%)	0 (0%)	4 (11.8%)
Parkinson's disease					
Yes	34 (31.8%)	4 (14.8%)	5 (25%)	9 (33.3%)	16 (48.5%)
No*	**57 (53.3%)**	**20 (74.1%)**	**13 (65%)**	**11 (40.7%)**	**13 (39.4%)**
Unsure	16 (15%)	3 (11.1%)	2 (10%)	7 (25.9%)	4 (12.1%)
Falls and hip fractures					
Yes*	**75 (70.1%)**	**20 (74.1%)**	**17 (85%)**	**16 (59.3%)**	**22 (66.7%)**
No	16 (15%)	5 (18.5%)	0 (0%)	5 (18.5%)	6 (18.2%)
Unsure	16 (15%)	2 (7.4%)	3 (15%)	6 (22.2%)	5 (15.2%)

* Correct answer
** N=107; no answer indicated by 1 caregiver
*** N=106; no answer indicated by 1 staff nurse and 1 caregiver

Question and answer options	Response n (%)				
	All nursing staff (N=108)	Professional nurses (n=27)	Staff nurses (n=20)	Nursing auxiliaries (n=27)	Caregivers (n=34)
Dementia					
Yes	54 (50.5%)	9 (33.3%)	8 (40%)	16 (59.3%)	21 (63.6%)
No*	**35 (32.7%)**	**13 (48.2%)**	**10 (50%)**	**8 (29.6%)**	**4 (12.1%)**
Unsure	18 (16.8%)	5 (18.5%)	2 (10%)	3 (11.1%)	8 (24.2%)
Increased infections					
Yes*	**84 (78.5%)**	**26 (96.3%)**	**20 (100%)**	**21 (77.8%)**	**17 (51.5%)**
No	6 (5.6%)	1 (3.7%)	0 (0%)	2 (7.4%)	3 (9.1%)
Unsure	17 (15.9%)	0 (0%)	0 (0%)	4 (14.8%)	13 (39.4%)
Osteoporosis					
Yes	61 (57%)	16 (59.3%)	12 (60%)	12 (44.4%)	21 (63.6%)
No*	**27 (25.2%)**	**10 (37%)**	**4 (20%)**	**6 (22.2%)**	**7 (21.2%)**
Unsure	19 (17.8%)	1 (3.7%)	4 (20%)	9 (33.3%)	5 (15.2%)
Pressure ulcers					
Yes*	**86 (80.4%)**	**27 (100%)**	**17 (85%)**	**19 (70.4%)**	**23 (69.7%)**
No	12 (11.2%)	0 (0%)	3 (15%)	4 (14.8%)	5 (15.2%)
Unsure	9 (8.4%)	0 (0%)	0 (0%)	4 (14.8%)	5 (15.2%)
Increased risk of death					
Yes*	**75 (70.1%)**	**24 (88.9%)**	**17 (85%)**	**16 (59.3%)**	**18 (54.6%)**
No	12 (11.2%)	1 (3.7%)	1 (5%)	4 (14.8%)	6 (18.2%)
Unsure	20 (18.7%)	2 (7.4%)	2 (10%)	7 (25.9%)	9 (27.3%)
*Increased dependency on others for daily activities such as bathing, dressing, eating, using the toilet****					
Yes*	**80 (75.5%)**	**20 (74.1%)**	**17 (89.5%)**	**21 (77.8%)**	**22 (66.7%)**
No	21 (19.8%)	6 (22.2%)	2 (10.5%)	5 (18.5%)	8 (24.3%)
Unsure	5 (4.7%)	1 (3.7%)	0 (0%)	1 (3.7%)	3 (9.1%)

* Correct answer
** N=107; no answer indicated by 1 caregiver
*** N=106; no answer indicated by 1 staff nurse and 1 caregiver

3.3.2 Knowledge of the different categories of nursing staff

Responses of knowledge questions for the different categories of nursing staff are indicated in Tables 3.3-3.5. There was a definite statistical significant difference in the total knowledge score ($p<0.001$) between the different categories of nursing staff. The mean total knowledge score for professional nurses was 17.2 ± 2.8 (72%) out of a possible 24, 16.3 ± 2.2 (68%) for staff nurses, 13.9 ± 3.6 (58%) for nursing auxiliaries and 13.0 ± 3.4 (54%) for caregivers. A statistical significant difference was shown in two of the three knowledge question areas: factors or conditions contributing to UWL ($p=0.006$) and consequences of UWL ($p<0.001$), with professional nurses achieving the highest and caregivers the lowest mean scores in both these knowledge areas.

Table 3.6 gives detail on the means, the minimum and maximum scores, as well as the means expressed as a percentage for the separate knowledge areas within the different categories of nursing staff.

Table 3.6: Comparison of knowledge scores between different categories of nursing staff working at long-term care facilities for older adults in the Cape Metropole (N=108)

Knowledge area (number of questions)	Mean ± SD (min - max) Percentage				P valueδ
	Professional nurses (n=27)	Staff nurses (n=20)	Nursing auxiliaries (n=27)	Caregivers (n=34)	
All questions (24)	17.2 ± 2.8 (11 - 23) 72%	16.3 ± 2.2 (12-20) 68%	13.9 ± 3.6 (7-20) 58%	13.0 ± 3.4 (7-21) 54%	<0.001**
Weight loss (5)	2.1 ± 1.2 (1 - 4) 42%	1.8 ± 1.0 (0 - 4) 36%	1.8 ± 0.9 (0 - 3) 36%	1.7 ± 0.8 (0 - 4) 34%	0.123
Factors/conditions contributing to unintentional weight loss (10)	8.3 ± 1.7 (4 - 10) 83%	7.8 ± 1.2 (6 - 10) 78%	6.7 ± 1.7 (3 - 10) 67%	6.8 ± 1.7 (3 - 10) 68%	0.006*
Consequences of unintentional weight loss (9)	6.7 ± 1.7 (3 – 9) 74%	6.7 ± 1.1 (5 - 8) 74%	5.3 ± 1.9 (1 - 9) 59%	4.5 ± 1.8 (1 - 9) 50%	<0.001**

SD=standard deviation
δ Pearson Chi-square test
* p significant <0.05
** p significant <0.001

3.3.3 Knowledge of nursing staff across all categories working in subsidised and non-subsidised long-term care facilities

There was no statistical significant difference (Two-sample Wilcoxon rank-sum (Mann-Witney) test) between the total knowledge score (p=0.828) of participants across all nursing staff categories working at subsidised vs. those working at non-subsidised LTCFs. The mean score achieved by participants from non-subsidised facilities were 15.0 ± 3.9 (63%) out of a possible 24, with a minimum score of 8 and a maximum of 23. Similar results were found at subsidised facilities, with a mean score of 14.8 ± 3.3 (62%), a minimum score of 7 and a maximum of 21.

There was no statistical significant difference in any of the three knowledge question areas: weight loss (p=0.066), factors or conditions contributing to UWL (p=0.399) and consequences of UWL (p=0.737). Although not statistically significant (p=0.66), nursing staff working in non-subsidised LTCFs achieved a higher score (2.1 ± 1.1, 42%) for the knowledge area of weight loss in comparison to staff working at subsidised facilities (1.7 ± 0.9, 34%).

Table 3.7 indicates the means, the minimum and maximum scores, as well as the means expressed as a percentage for the separate knowledge areas within subsidised and non-subsidised LTCFs.

Table 3.7: Comparison of knowledge scores of nursing staff across all categories working at subsidised and non-subsidised long-term care facilities for older adults in the Cape Metropole (N=108)

Knowledge area (number of questions)	Mean ± SD (min - max) Percentage		P valueδ
	Subsidised facilities (n=60)	Non-subsidised facilities (n=48)	
All questions (24)	14.8 ± 3.3 (7-21) 62%	15.0 ± 3.9 (8-23) 63%	0.828
Weight loss (5)	1.7 ± 0.9 (0 - 4) 34%	2.1 ± 1.1 (0 - 4) 42%	0.066
Factors/conditions contributing to unintentional weight loss (10)	7.5 ± 1.5 (3 - 10) 75%	7.2 ± 2.01.2 (3 - 10) 72%	0.399
Consequences of unintentional weight loss (9)	5.6 ± 1.9 (1 – 9) 62%	5.8 ± 2.0 (1 - 9) 64%	0.737

SD=standard deviation
δ Two-sample Wilcoxon rank-sum (Mann-Witney) test

Figure 3.1 indicates a comparison of the total knowledge and the separate knowledge areas (weight loss, factors/conditions contributing to UWL loss and possible consequences of UWL) between nursing staff across all categories, the separate nursing staff categories (professional nurses, staff nurses, nursing auxiliaries and caregivers) and facility types (subsidised and non-subsidised LTCFs).

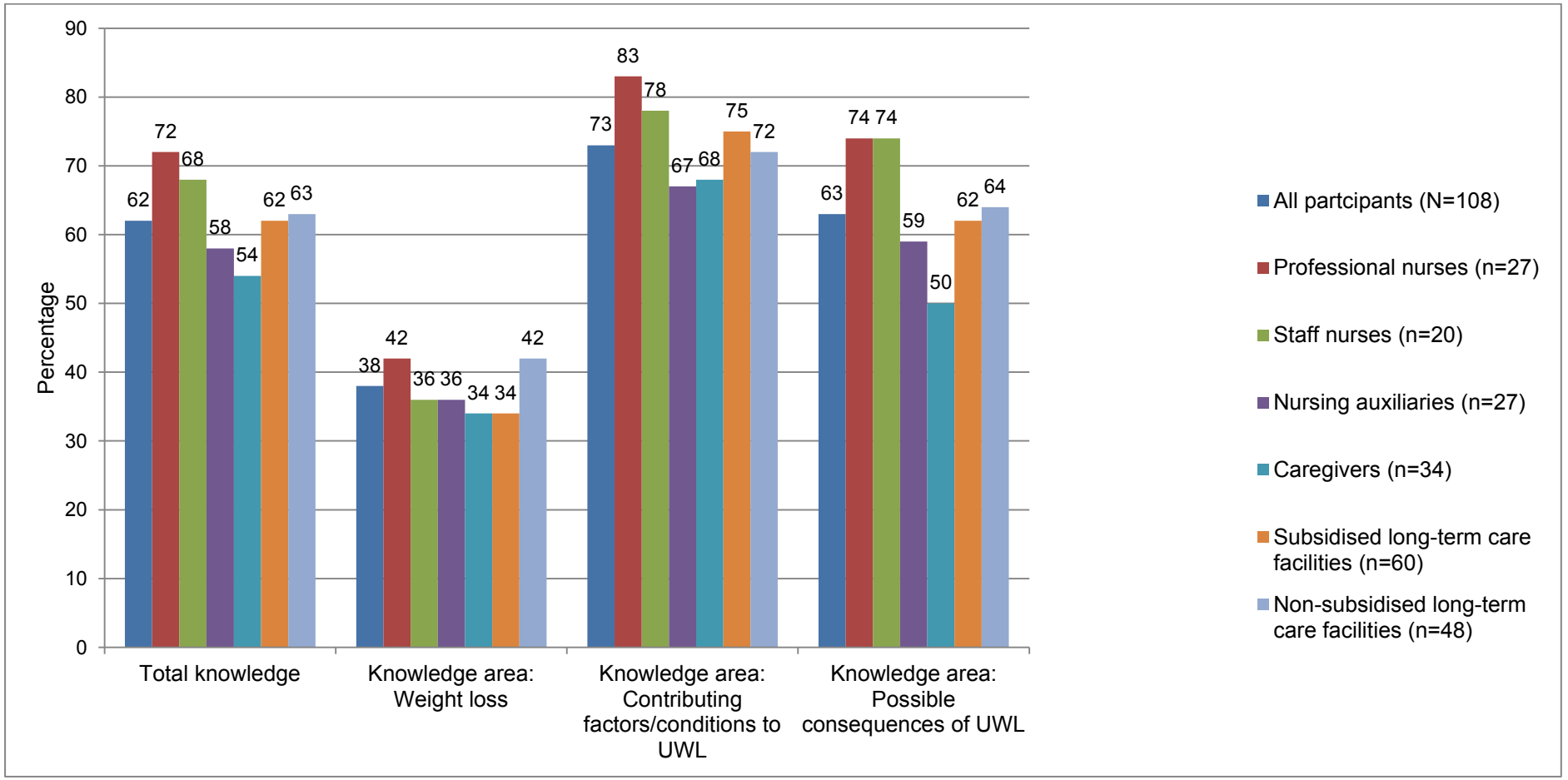

Figure 3.1: Comparison of total knowledge and separate knowledge areas between nursing staff (N=108) across all categories, separate nursing staff categories and facility types in long-term care facilities for older adults in the Cape Metropole

3.4 THE PERCEPTIONS OF NURSING STAFF REGARDING THE IDENTIFICATION AND MANAGEMENT OF UNINTENTIONAL WEIGHT LOSS IN OLDER ADULTS RESIDING IN LONG-TERM CARE FACILITIES IN THE CAPE METROPOLE

3.4.1 Perceptions across all categories of nursing staff

Table 3.8 outlines the responses of nursing staff across all categories regarding their perceptions of aspects about weight loss, nutritional status, meals and eating, facility procedures as well as how they perceived their personal knowledge and abilities regarding these aspects.

3.4.1.1 Weight loss

Ninety percent (90%, n=98) of the participants either disagreed or strongly disagreed with the statement 'I do not feel that it is worth the effort to identify a resident that loses weight because it is part of the natural ageing process'. The majority of participants indicated that it is important to monitor a resident's weight monthly, with 88.9% (n=96) agreeing and strongly agreeing to this statement (Table 3.8).

3.4.1.2 Nutritional status

Perceptions to whether malnutrition is uncommon in older adults residing in LTCFs were divided as 45.8% (n=49) of participants agreed and strongly agreed and 54.3% (n=58) disagreed and strongly disagreed with this statement. Only 3.7% (n=4) disagreed or strongly disagreed that nursing staff has the major role of identifying residents that are malnourished or at risk of malnutrition in LTCFs. Most of the participants recognised the importance of monitoring a resident's nutritional status periodically (98.2% (n=106) agreed and strongly agreed). Ninety-five percent (n=103) noted that they agreed or strongly agreed that exercise plays an important role in the maintenance of muscle tissue (Table 3.8).

3.4.1.3 Meals and eating

Approximately half of the participants perceived that it is normal for an older adult to have a poor appetite with 45.4% (n=49) either agreeing or strongly agreeing, in contrast to 54.7% (n=59) either disagreeing or strongly disagreeing with the statement. Only 4.6% (n=5) of participants did not feel that there was enough time to feed residents who need help at mealtimes. All participants (100%, n=108) either agreed or strongly agreed that it is necessary to individualise meals for residents with specific nutritional requirements. Most nursing staff (73.2%, n=79) either disagreed or strongly disagreed with the statement 'It is of

no use to train residents with eating problems to eat by themselves'. The majority of participants (86.1%, n=93) indicated that they disagreed or strongly disagreed that eating nutritious meals is more important for younger individuals than for older adults (Table 3.8).

3.4.1.4 Facility procedures

The majority of respondents (87.8%, n=93) either agreed or strongly agreed that the facility they worked at had the necessary procedures in place to identify residents that were at risk of malnutrition (Table 3.8).

3.4.1.5 Perceptions of nursing staff regarding their personal knowledge and abilities related to specific nutritional aspects

Most nursing staff (76.8%, n=83) agreed or strongly agreed that they had sufficient knowledge on how to evaluate a resident's nutritional status. Ninety percent (90%, n=97) of participants stated that they agreed or strongly agreed with the following two statements: 'I have sufficient knowledge to assess whether a resident's change in weight is of concern to his/her wellbeing' and 'I know what to do when a resident has unintended weight loss'. Only 5.6% (n=6) expressed the opinion that they did not know when it is necessary to report a possible nutritional problem (Table 3.8).

Table 3.8: Perceptions of nursing staff regarding the identification and management of unintentional weight loss in older adults residing in long-term care facilities in the Cape Metropole (N=108)

Perception statement	Response n (%)			
	Strongly agree	Agree	Disagree	Strongly disagree
Weight loss				
I do not feel that it is worth the effort to identify a resident who loses weight because it is part of the natural ageing process.	5 (4.6%)	5 (4.6%)	72 (66.7%)	26 (24.1%)
It is important to monitor a resident's weight monthly.	44 (40.7%)	52 (48.2%)	12 (11.1%)	0 (0.0%)
Nutritional status				
Malnutrition is uncommon in older adults residing in long- term care facilities.*	12 (11.2%)	37 (34.6%)	48 (44.9%)	10 (9.4%)
Nursing staff have the major role of identifying residents who are malnourished or at risk of malnutrition in long-term care facilities.	47 (43.5)	57 (52.8%)	3 (2.8%)	1 (0.9%)
It is important to monitor a resident's nutritional status periodically.	41 (38.0%)	65 (60.2%)	1 (0.9%)	1 (0.9%)
Exercise plays an important role in the maintenance of muscle tissue.	44 (40.7%)	59 (54.6%)	4 (3.7%)	1 (0.9%)
Meals and eating				
It is normal for an older adult to have a poor appetite.	10 (9.3%)	39 (36.1%)	56 (51.9%)	3 (2.8%)
There is enough time to feed residents who need help at mealtimes.	50 (46.3%)	53 (49.1%)	4 (3.7%)	1 (0.9%)
It is necessary to individualise meals for residents with specific nutritional requirements.	31 (28.7%)	77 (71.3%)	0 (0.0%)	0 (0.0%)
It is of no use to train residents with eating problems to eat by themselves.	7 (6.5%)	22 (20.4%)	69 (63.9%)	10 (9.3%)
Eating nutritious meals is more important for younger individuals than for older people.	3 (2.8%)	12 (11.1%)	73 (67.6%)	20 (18.5%)
Facility procedures				
This facility has the necessary procedures in place to identify residents who are at risk of malnutrition.**	25 (23.6%)	68 (64.2%)	11 (10.4%)	2 (1.9%)

* n = 107, no answer indicated by 1 staff nurse
** n = 106, no answer indicated by 2 caregivers

Perception statement	Response n (%)			
	Strongly agree	Agree	Disagree	Strongly disagree
Personal knowledge and abilities				
I have sufficient knowledge to evaluate a resident's nutritional status.	16 (14.8%)	67 (62.0%)	24 (22.2%)	1 (0.9%)
I have sufficient knowledge to assess whether a resident's change in weight is of concern to his/her wellbeing.	26 (24.1%)	71 (65.7%)	11 (10.2%)	0 (0.0%)
I know what to do when a resident has unintended weight loss.	28 (25.9%)	69 (63.9%)	9 (8.3%)	2 (1.9%)
I know when it is necessary to report that a resident has a nutritional problem.	40 (37.0%)	62 (57.4%)	4 (3.7%)	2 (1.9%)

* n = 107, no answer indicated by 1 staff nurse
** n = 106, no answer indicated by 2 caregivers

3.4.2 Comparison of perceptions of the different categories of nursing staff

There were no significant differences ($p>0.05$ with Pearson Chi-square test) between the responses of the different categories of nursing staff towards almost all of the perception statements. The exception was the following three statements regarding meals and eating:

- 'It is normal for an older adult to have a poor appetite' ($p=0.009$).
- 'It is of no use to train residents with eating problems to eat by themselves' ($p=0.007$).
- 'Eating nutritious meals is more important for younger individuals than for older people' ($p=0.003$).

The mean ordinal score for professional and staff nurses was lower (in more disagreement) compared to the nursing auxiliaries' and caregivers' scores for the three mentioned statements (Table 3.9).

Table 3.9: Perceptions of the different categories of nursing staff regarding the identification and management of unintentional weight loss in older adults residing in long-term care facilities in the Cape Metropole (N=108)

Perception statement	Mean ordinal score ± SD					p valueδ
	All nursing staff (N=108)	Professional nurses (n=27)	Staff nurses (n=20)	Nursing auxiliaries (n=27)	Caregivers (n=34)	
Weight loss						
I do not feel that it is worth the effort to identify a resident who loses weight because it is part of the natural ageing process.	1.90 ± 0.68	1.63 ± 0.56	1.85 ± 0.37	2.11 ± 0.75	1.97 ± 0.80	0.112
It is important to monitor a resident's weight monthly.	3.30 ± 0.66	3.15 ± 0.66	3.15 ± 0.75	3.33 ± 0.62	3.47 ± 0.61	0.290
Nutritional status						
Malnutrition is uncommon in older adults residing in long-term care facilities.**	2.48 ± 0.82	2.56 ± 0.70	2.16 ± 0.69	2.59 ± 0.93	2.50 ± 0.86	0.126
Nursing staff has the major role of identifying residents who are malnourished or at risk of malnutrition in long-term care facilities.	3.89 ± 0.59	3.41 ± 0.50	3.40 ± 0.68	3.48 ± 0.58	3.29 ± 0.63	0.547
It is important to monitor a resident's nutritional status periodically.	3.35 ± 0.55	3.37 ± 0.49	3.30 ± 0.57	3.52 ± 0.51	3.24 ± 0.61	0.341
Exercise plays an important role in the maintenance of muscle tissue.	3.35 ± 0.60	3.37 ± 0.49	3.40 ± 0.60	3.41 ± 0.64	3.26 ± 0.67	0.721
Meals and eating						
It is normal for an older adult to have a poor appetite.	2.52 ± 0.70	2.19 ± 0.48	2.35 ± 0.67	2.70 ± 0.61	2.74 ± 0.83	0.009*
There is enough time to feed residents who need help at mealtimes.	3.41 ± 0.61	3.26 ± 0.59	3.50 ± 0.51	3.52 ± 0.51	3.38 ± 0.74	0.483
It is necessary to individualise meals for residents with specific nutritional requirements.	3.29 ± 0.45	3.30 ± 0.47	3.20 ± 0.41	3.33 ± 0.48	3.29 ± 0.46	0.791
It is of no use to train residents with eating problems to eat by themselves.	2.24 ± 0.71	2.15 ± 0.46	1.95 ± 0.51	2.30 ± 0.87	2.44 ± 0.79	0.007*
Eating nutritious meals is more important for younger individuals than for older people.	1.98 ± 0.64	1.81 ± 0.40	1.80 ± 0.41	2.11 ± 0.70	2.12 ± 0.81	0.003*

Perception statement	Mean ordinal score ± SD					
	All nursing staff (N=108)	Professional nurses (n=27)	Staff nurses (n=20)	Nursing auxiliaries (n=27)	Caregivers (n=34)	p valueδ
Facility procedures						
This facility has the necessary procedures in place to identify residents who are at risk of malnutrition.	3.09 ± 0.64	3.07 ± 0.47	2.90 ± 0.79	3.33 ± 0.48	3.03 ± 0.74	0.431
Personal knowledge and abilities						
I have sufficient knowledge to evaluate a resident's nutritional status.	2.91 ± 0.63	2.96 ± 0.52	2.85 ± 0.67	3.04 ± 0.65	2.79 ± 0.69	0.633
I have sufficient knowledge to assess whether a resident's change in weight is of concern to his/her wellbeing.	3.14 ± 0.57	3.22 ± 0.51	3.05 ± 0.60	3.33 ± 0.48	2.97 ± 0.63	0.519
I know what to do when a resident has unintended weight loss.	3.14 ± 0.63	3.15 ± 0.46	3.25 ± 0.64	3.30 ± 0.47	2.94 ± 0.81	0.588
I know when it is necessary to report that a resident has a nutritional problem.	3.30 ± 0.63	3.22 ± 0.51	3.45 ± 0.51	3.44 ± 0.70	3.15 ± 0.70	0.147

Ordinal scores: strongly disagree=1, disagree=2, agree=3, strongly agree=4
SD = standard deviation
δ Pearson Chi-square test
* p significant <0.05
** N=107, no answer indicated by 1 staff nurse
*** N=106, no answer indicated by 2 caregivers

3.4.3 Comparison of perceptions of nursing staff working at subsidised and non-subsidised long-term care facilities

There were no statistical significant differences (p>0.05 with two-sample Wilcoxon rank-sum (Mann-Witney) test) between the perceptions of nursing staff working at subsidised vs. non-subsidised LTCFs. It was only the statement 'Nursing staff has the major role of identifying residents who are malnourished or at risk of malnutrition in long-term care facilities.' where a statistical significant difference (p=0.041) was shown. The mean ordinal score for this statement was higher for non-subsidised facilities (3.52 ± 0.55) than for subsidised facilities (3.28 ± 0.61). Although not statistically significant (p=0.063), there was a tendency for nursing staff from non-subsidised facilities to indicate more positive responses towards the importance of monitoring residents' weight periodically (Table 3.10).

Table 3.10: Perceptions of nursing staff working at subsidised and non-subsidised long-term care facilities for older adults in the Cape Metropole regarding the identification and management of unintentional weight loss (N=108)

Perception statement	Mean ordinal score ± SD		P value$^{\delta}$
	Subsidised facilities (n=60)	Non-subsidised facilities (n=48)	
Weight loss			
I do not feel that it is worth the effort to identify a resident that loses weight because it is part of the natural ageing process.	1.90 ± 0.57	1.90 ± 0.81	0.620
It is important to monitor a resident's weight monthly.	3.20 ± 0.63	3.42 ± 0.68	0.063
Nutritional status			
Malnutrition is uncommon in older adults residing in long- term care facilities.**	2.54 ± 0.82	2.40 ± 0.82	0.310
Nursing staff has the major role of identifying residents who are malnourished or at risk of malnutrition in long-term care facilities.	3.28 ± 0.61	3.52 ± 0.55	0.041*
It is important to monitor a resident's nutritional status periodically.	3.32 ± 0.60	3.40 ± 0.49	0.607
Exercise plays an important role in the maintenance of muscle tissue.	3.32 ± 0.62	3.40 ± 0.57	0.561

Ordinal scores: strongly disagree=1, disagree=2, agree=3, strongly agree=4
SD=standard deviation
δ Two-sample Wilcoxon rank-sum (Mann-Witney) test
* p significant <0.05
** n (subsidised facilities) = 59
***n (non-subsidised facilities) = 46

Perception statement	Mean ordinal score ± SD		P valueδ
	Subsidised facilities (n=60)	Non-subsidised facilities (n=48)	
Meals and eating			
It is normal for an older adult to have a poor appetite.	2.47 ± 0.65	2.58 ± 0.77	0.395
There is enough time to feed residents who need help at mealtimes.	3.43 ± 0.65	3.38 ± 0.57	0.455
It is necessary to individualise meals for residents with specific nutritional requirements.	3.25 ± 0.44	3.33 ± 0.48	0.344
It is of no use to train residents with eating problems to eat by themselves.	2.20 ± 0.73	2.29 ± 0.68	0.443
Eating nutritious meals is more important for younger individuals than for older people.	1.95 ± 0.62	2.02 ± 0.67	0.494
Facility procedures			
This facility has the necessary procedures in place to identify residents who are at risk of malnutrition.***	3.15 ± 0.68	3.02 ± 0.58	0.176
Personal knowledge and abilities			
I have sufficient knowledge to evaluate a resident's nutritional status.	2.88 ± 0.61	2.94 ± 0.67	0.565
I have sufficient knowledge to assess whether a resident's change in weight is of concern to his/her wellbeing.	3.13 ± 0.57	3.15 ± 0.58	0.900
I know what to do when a resident has unintended weight loss.	3.12 ± 0.72	3.17 ± 0.52	0.951
I know when it is necessary to report that a resident has a nutritional problem.	3.37 ± 0.66	3.21 ± 0.58	0.115

Ordinal scores: strongly disagree=1, disagree=2, agree=3, strongly agree=4
SD=standard deviation
δ Two-sample Wilcoxon rank-sum (Mann-Witney) test
* p significant <0.05
** n (subsidised facilities) = 59
***n (non-subsidised facilities) = 46

3.5 THE PRACTICES OF NURSING STAFF AND FACILITIES REGARDING THE IDENTIFICATION AND MANAGEMENT OF UNINTENTIONAL WEIGHT LOSS IN OLDER ADULTS RESIDING IN LONG-TERM CARE FACILITIES IN THE CAPE METROPOLE

This section presents the results of practices of the total group of nursing staff regarding the identification and management of UWL. Differences in these practices within the different nursing staff categories and facility types are also summarised in the last section.

3.5.1 Practices across all nursing staff categories

The nursing staff questionnaire included questions concerning the practices of participants regarding several aspects of nutritional assessment and the identification and management of UWL. These questions and responses are summarised in Tables 3.11-3.14. Although these tables contain a summary of responses of the total group of nursing staff as well as the subcategories of nursing staff, the results of the different categories of nursing staff will only be reported after the practices of the total group have been presented.

3.5.1.1 Practices: Assessment of weight and nutritional status

Table 3.11 outlines participants' responses regarding their current practices in relation to the assessment of weight and nutritional status. The majority of nursing staff (87%, n=94) indicated that residents were being weighed, with 61% (n=57) of participants stating that residents were being weighed monthly. Assessment of weight on admission to the frail care section was reported by 31.9% (n=30) of participants. Thirty-eight percent (n=36) of participants noted that residents were only weighed when it was suspected that the older person had lost weight, while 25.5% (n=24) only weighed residents if it was requested by a doctor.

Only 5.3% (n=5) of participants indicated that residents' weight measurements were not being recorded. Ninety-four percent (n=87) of participants who measured the weight of residents, also reported to habitually monitor weight loss in residents.

Weighing practices differed, with 38.2% (n=34) stating that residents were weighed with all clothing but without shoes, 31.5% (n=28) with all clothing and shoes, while 30.3% (n=27) were being weighed without heavy clothing and without shoes. The question with regards to practice: 'On what type of surface is a scale placed when residents are weighed?' showed that the majority (92.2%, n=83) would weigh residents on an even surface, while 4.4% (n=4) indicated carpet and 3.3% (n=3) any hard surface such as uneven tiles as general practice.

A limited number of participants indicated the use of nutritional screening or assessment tools at the facility they were working at. Only 14.8% (n=16) of participants reported to make use of the Body Mass Index (BMI), of which most noted that it was used as part of completing the Mini Nutritional Assessment (MNA) form, and not as a stand-alone tool. While 16.8% (n=18) made use of the MNA short form, only 3.8% (n=4) indicated the use of the comprehensive MNA form.

Data from facility questionnaires, which served as cross-control, supported nursing staff's practices regarding the frequency of weight measurement and use of nutritional assessment tools. The only apparent difference was that no facility's management indicated the use of the comprehensive MNA form, while some staff at one of the facilities indicated the use of this tool.

Table 3.11: Practices of nursing staff regarding assessment of weight and nutritional status of older people in long-term care facilities in the Cape Metropole (N=108*)

Question and answer options	Response n (%)				
	All nursing staff	Professional nurses	Staff nurses	Nursing auxiliaries	Caregivers
Are residents weighed at this facility?					
	N=108	n=27	n=20	n=27	n=34
Yes	94 (87%)	24 (88.9%)	19 (95%)	22 (81.5%)	29 (85.3%)
No	14 (13%)	3 (11.1%)	1 (5%)	5 (18.5%)	5 (14.7%)
How often are residents weighed after admission?					
	N=94	n=24	n=19	n=22	n=29
Only if requested by a doctor	24 (25.5%)	5 (20.8%)	9 (47.4%)	4 (18.2%)	6 (20.7%)
Two or three times a year	4 (4.3%)	2 (8.3%)	1 (5.3%)	0 (0%)	1 (3.5%)
Every second or third month	6 (6.4%)	2 (8.3%)	0 (0%)	2 (9.1%)	2 (6.9%)
Monthly	57 (60.6%)	15 (62.5%)	10 (52.6%)	13 (59.1%)	19 (65.5%)
Weekly	4 (4.3%)	1 (4.2%)	1 (5.3%)	0 (0%)	2 (6.9%)
When it is suspected that the older person have lost weight	36 (38.3%)	10 (41.7%)	5 (26.3%)	11 (50%)	10 (34.5%)
On admission to frail care	30 (31.9%)	6 (25%)	6 (31.6%)	8 (36.4%)	10 (34.5%)
Other** δ	8 (8.6%)	4 (16.7%)	1 (5.6%)	2 (9.1%)	1 (3.5%)
Are residents' weights recorded?					
	N=94	n=24	n=19	n=22	n=29
Yes	89 (94.7%)	22 (91.7%)	19 (100%)	21 (95.5%)	27 (93.1%)
No	5 (5.3%)	2 (8.3%)	0 (0%)	1 (4.6%)	2 (6.9%)
How are residents weighed?					
	N=89	n=21	n=18	n=21	n=29
With all clothing and shoes	28 (31.5%)	10 (47.6%)	3 (16.7%)	4 (19.1%)	11 (37.9%)
With all clothing but without shoes	34 (38.2%)	5 (23.8%)	9 (50%)	10 (47.6%)	10 (34.5%)
Without heavy clothing and without shoes	27 (30.3%)	6 (28.6%)	6 (33.3%)	7 (33.3%)	8 (27.6%)

* N varies due to the fact that respondents did not have to complete questions that were not applicable to the facility they were working at

** N=93, no answer indicated by 2 staff nurses

δ 'Other' includes the following responses: on admission to facility, on admission to frail care, if a resident experiences a decreased appetite, if weight loss is noted, if a resident is receiving tuberculosis medication, if a resident is following a special diet

Question and answer options	Response n (%)				
	All nursing staff	Professional nurses	Staff nurses	Nursing auxiliaries	Caregivers
On what type of surface is a scale placed when residents are weighed?					
	N=90	n=20	n=19	n=22	n=29
On any even surface e.g. tiles or wooden floor, etc.	83 (92.2%)	17 (85%)	17 (89.5%)	22 (100%)	27 (93.1%)
On carpet	4 (4.4%)	1 (5%)	2 (10.5%)	0 (0%)	1 (3.5%)
On a hard surface e.g. uneven tiles	3 (3.3%)	2 (10%)	0 (0%)	0 (0%)	1 (3.5%)
Do nursing staff monitor weight loss in residents?					
	N=93	n=22	n=19	n=22	n=30
Yes	87 (93.6%)	20 (90.9%)	18 (94.7%)	20 (90.9%)	29 (96.7%)
No	6 (6.5%)	2 (9.1%)	1 (5.3%)	2 (9.1%)	1 (3.3%)
Does the facility make use of any of the following nutritional screening or assessment tools?					
Body Mass Index (BMI)					
	N=108	n=27	n=20	n=27	n=34
Yes	16 (14.8%)	5 (18.5%)	5 (25%)	2 (7.4%)	4 (11.8%)
No	87 (80.6%)	22 (81.5%)	15 (75%)	22 (81.5%)	28 (82.4%)
Unsure	5 (4.6%)	0 (0%)	0 (0%)	3 (11.1%)	2 (5.9%)
Mini Nutritional Assessment (MNA), short form					
	N=107	n=27	n=20	n=27	n=33
Yes	18 (16.8%)	5 (18.5%)	6 (30%)	3 (11.1%)	4 (12.1%)
No	84 (78.5%)	22 (81.5%)	14 (70%)	21 (77.8%)	27 (81.8%)
Unsure	5 (4.7%)	0 (0%)	0 (0%)	3 (11.1%)	2 (6.1%)
Mini Nutritional Assessment (MNA), comprehensive form					
	N=106	n=27	n=20	n=26	n=33
Yes	4 (3.8%)	3 (11.1%)	0 (0%)	0 (0%)	1 (3%)
No	96 (90.6%)	24 (88.9%)	20 (100%)	23 (88.5%)	29 (87.9%)
Unsure	6 (5.7%)	0 (0%)	0 (0%)	3 (11.5%)	3 (9.1%)

* N varies due to the fact that respondents did not have to complete questions that were not applicable to the facility they were working at

** N=93, no answer indicated by 2 staff nurses

δ 'Other' includes the following responses: on admission to facility, on admission to frail care, if a resident experiences a decreased appetite, if weight loss is noted, if a resident is receiving tuberculosis medication, if a resident is following a special diet

3.5.1.2 Practices: Reporting and documentation of decreased food intake and supplementation

All participants (100%, N=108) indicated that they would report if a resident's food intake was less than usual. It was common practice to report on a resident's inadequate food intake if more than half (49.1%, n=53) or three-quarters (47.2%, n=51) of food was left on the plate. Only 3.7% (n=4) would report when more than one-quarter of food was left on the plate. The majority of participants (95.3%, n=102) indicated that they would document when a resident's food intake was less than usual (Table 3.12).

Almost two-thirds of participants (63%, n=68) reported that supplementation drinks were usually served between meals, while 15.7% (n=17) served supplementation drinks with a meal and 14.8% (n=16) directly after a meal. The intake of supplements was documented by 83.3% (n=90), while 10.2% (n=11) indicated that intake of supplements were only documented sometimes, and 6.5% (n=7) never documented intake (Table 3.12). Data from facility questionnaires indicated that all facilities documented the intake of supplements, with two-thirds reporting to only sometimes document supplement intake.

Table 3.12: Practices of nursing staff regarding the reporting and documentation of decreased food intake and supplementation in long-term care facilities in the Cape Metropole (N=108)

Question and answer options	Response n (%)				
	All nursing staff (N=108)	Professional nurses (n=27)	Staff nurses (n=20)	Nursing auxiliaries (n=27)	Caregivers (n=34)
Do you report when a resident's food intake is less than usual?					
Yes	108 (100%)	27 (100%)	20 (100%)	27 (100%)	34 (100%)
No	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
When will you report on the resident's inadequate food intake?					
If more than ¼ of food is left on the plate	4 (3.7%)	2 (7.4%)	0 (0%)	1 (3.7%)	1 (2.9%)
If more than ½ of food is left on the plate	53 (49.1%)	22 (81.5%)	11 (55%)	6 (22.2%)	14 (41.2%)
If more than ¾ of food is left on the plate	51 (47.2%)	3 (11.1%)	9 (45%)	20 (74.1%)	19 (55.9%)
*Do you document when a resident's food intake is less than usual?**					
Yes	102 (95.3%)	24 (92.3%)	20 (100%)	26 (96.3%)	32 (94.1%)
No	5 (4.7%)	2 (7.7%)	0 (0%)	1 (3.7%)	2 (5.9%)
When is supplementation drinks usually served?					
Before a meal	7 (6.5%)	1 (3.7%)	2 (10%)	1 (3.7%)	3 (8.8%)
With a meal	17 (15.7%)	4 (14.8%)	0 (0%)	5 (18.5%)	8 (23.5%)
Directly after a meal	16 (14.8%)	3 (11.1%)	4 (20%)	3 (11.1%)	6 (17.7%)
Between meals	68 (63%)	19 (70.4%)	14 (70%)	18 (66.7%)	17 (50%)
Is the intake of supplements documented?					
Yes	90 (83.3%)	20 (74.1%)	20 (100%)	21 (77.8%)	29 (85.3%)
No	7 (6.5%)	3 (11.1%)	0 (0%)	2 (7.4%)	2 (5.9%)
Sometimes	11 (10.2%)	4 (14.8%)	0 (0%)	4 (14.8%)	3 (8.8%)

* N=107; no answer indicated by 1 professional nurse

3.5.1.3 Practices: Interventions used to address weight loss

Nursing staff had to indicate their practices with regards to how often specific interventions (Table 3.13) were used to address weight loss in older adults at the facility they worked at. The three most frequently used interventions for the total group of nursing staff, when combining responses to 'always' and 'often', were commercial supplements (92.6%, n=100), taking food preferences and aversions into consideration (84.2%, n=91) and referral to a doctor for medical evaluation (83.2%, n=89). The least frequently used interventions to

address UWL were fortifying meals (34.3%, n=37), referral to a speech therapist (28.7%, n=31) and the provision of a less-restricted diet (15.8%, n=17) (Table 3.13).

When considering participants' responses to the interventions being used, it needs to be kept in mind that there were nursing staff who indicated 'not applicable' at some of the listed interventions if they were not sure whether an intervention was being used because it was beyond their scope of practice (Table 3.13).

The responses indicated on the facility questionnaire regarding interventions being used to address UWL, show possible over-reporting by nursing staff when considering the results of nursing staff questionnaires. Due to the nature of the data it is not possible however, to make any direct comparison between the results from the two different questionnaires.

Table 3.13: Interventions used by nursing staff to address weight loss in older adults residing in long-term care facilities in the Cape Metropole (N=108)

Intervention	Response n (%)				
	All nursing staff (N=108)	Professional nurses (n=27)	Staff nurses (n=20)	Nursing auxiliaries (n=27)	Caregivers (n=34)
Commercial supplementation drinks e.g. Ensure, Nutren, Nutrimil					
Always	71 (65.7%)	14 (51.9%)	13 (65%)	21 (77.8%)	23 (67.7%)
Often	29 (26.9%)	12 (44.4%)	6 (30%)	5 (18.5%)	6 (17.7%)
Seldom	8 (7.4%)	1 (3.7%)	1 (5%)	1 (3.7%)	5 (14.7%)
Never	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Supplementation drinks prepared in the kitchen e.g. eggnog, peanut butter shake					
Always	28 (25.9%)	4 (14.8%)	3 (15%)	9 (33.3%)	12 (35.3%)
Often	32 (29.6%)	8 (29.6%)	9 (45%)	7 (25.9%)	8 (23.5%)
Seldom	30 (27.8%)	9 (33.3%)	9 (33.3%)	5 (18.5%)	9 (26.5%)
Never	18 (16.7%)	6 (22.2%)	6 (22.2%)	6 (22.2%)	5 (14.7%)
Additional snacks during the day e.g. sandwich with tea					
Always	42 (38.9%)	5 (18.5%)	6 (30%)	11 (40.7%)	20 (58.8%)
Often	31 (28.7%)	11 (40.7%)	8 (40%)	6 (22.2%)	6 (17.7%)
Seldom	22 (20.4%)	8 (29.6%)	4 (20%)	4 (14.8%)	6 (17.7%)
Never	13 (12%)	3 (11.1%)	2 (10%)	6 (22.2%)	2 (5.9%)
Fortifying meals e.g. adding extra oil/margarine/sugar to food					
Always	19 (17.6%)	4 (14.8%)	2 (10%)	6 (22.2%)	7 (20.6%)
Often	18 (16.7%)	5 (18.5%)	5 (25%)	6 (22.2%)	2 (5.9%)
Seldom	33 (30.6%)	7 (25.9%)	9 (45%)	5 (18.5%)	12 (35.3%)
Never	37 (34.3%)	11 (40.7%)	4 (20%)	10 (37%)	12 (35.3%)
Not applicable	1 (0.9%)	0 (0%)	0 (0%)	0 (0%)	1 (2.9%)
*Vitamin and/or mineral supplements**					
Always	34 (31.8%)	6 (22.2%)	7 (35%)	7 (26.9%)	14 (41.2%)
Often	38 (35.5%)	15 (55.6%)	10 (50%)	7 (26.9%)	6 (17.7%)
Seldom	19 (17.8%)	5 (18.5%)	3 (15%)	5 (19.2%)	6 (17.7%)
Never	3 (2.8%)	1 (3.7%)	0 (0%)	2 (7.7%)	0 (0%)
Not applicable	13 (12.2%)	0 (0%)	0 (0%)	5 (19.2%)	8 (23.5%)

* N=107; no answer indicated by 1 nursing auxiliary
** N=107; no answer indicated by 1 caregiver

Intervention	Response n (%)				
	All nursing staff (N=108)	Professional nurses (n=27)	Staff nurses (n=20)	Nursing auxiliaries (n=27)	Caregivers (n=34)
*Tonic***					
Always	16 (15%)	1 (3.7%)	4 (20%)	4 (14.8%)	7 (21.2%)
Often	25 (23.4%)	9 (33.3%)	5 (25%)	8 (29.6%)	3 (9.1%)
Seldom	40 (37.4%)	16 (59.3%)	8 (40%)	7 (25.9%)	9 (27.3%)
Never	15 (14%)	1 (3.7%)	3 (15%)	5 (18.5%)	6 (18.2%)
Not applicable	11 (10.3%)	0 (0%)	0 (0%)	3 (11.1%)	8 (24.2%)
To take a person off their special diet and give them normal food					
Always	6 (5.6%)	0 (0%)	0 (0%)	0 (0%)	6 (17.7%)
Often	11 (10.2%)	2 (7.4%)	3 (15%)	3 (11.1%)	3 (8.8%)
Seldom	41 (38%)	16 (59.3%)	9 (45%)	6 (22.2%)	10 (29.4%)
Never	49 (45.4%)	8 (29.6%)	8 (40%)	18 (66.7%)	15 (44.1%)
Not applicable	1 (0.9%)	1 (3.7%)	0 (0%)	0 (0%)	0 (0%)
Take food likes/dislikes into consideration					
Always	59 (54.6%)	14 (51.9%)	10 (50%)	13 (48.2%)	22 (64.7%)
Often	32 (29.6%)	10 (37%)	7 (35%)	6 (22.2%)	9 (26.5%)
Seldom	13 (12%)	2 (7.4%)	2 (7.4%)	7 (25.9%)	2 (5.9%)
Never	4 (3.7%)	1 (3.7%)	1 (3.7%)	1 (3.7%)	1 (2.9%)
Smaller meals, more regularly					
Always	27 (25%)	3 (11.1%)	5 (25%)	9 (33.3%)	10 (29.4%)
Often	33 (30.6%)	8 (29.6%)	7 (35%)	7 (25.9%)	11 (32.4%)
Seldom	30 (27.8%)	11 (40.7%)	6 (30%)	5 (18.5%)	8 (23.5%)
Never	18 (16.7%)	5 (18.5%)	2 (10%)	6 (22.2%)	5 (14.7%)
*Referral to doctor for medical evaluation**					
Always	66 (61.7%)	16 (59.3%)	13 (65%)	16 (61.5%)	21 (61.8%)
Often	23 (21.5%)	8 (29.6%)	2 (10%)	7 (26.9%)	6 (17.7%)
Seldom	10 (9.4%)	3 (11.1%)	3 (15%)	1 (3.9%)	3 (8.8%)
Never	3 (2.8%)	0 (0%)	2 (10%)	0 (0%)	1 (2.9%)
Not applicable	5 (4.7%)	0 (0%)	0 (0%)	2 (7.7%)	3 (8.8%)

* N=107; no answer indicated by 1 nursing auxiliary
** N=107; no answer indicated by 1 caregiver

Intervention	Response n (%)				
	All nursing staff (N=108)	Professional nurses (n=27)	Staff nurses (n=20)	Nursing auxiliaries (n=27)	Caregivers (n=34)
Referral to dietitian for nutritional assessment					
Always	31 (28.7%)	7 (25.9%)	6 (30%)	7 (25.9%)	11 (32.4%)
Often	23 (21.3%)	6 (22.2%)	6 (30%)	5 (18.5%)	6 (17.7%)
Seldom	32 (29.6%)	10 (37%)	6 (30%)	7 (25.9%)	9 (26.5%)
Never	14 (13%)	4 (14.8%)	1 (5%)	4 (14.8%)	5 (14.7%)
Not applicable	8 (7.4%)	0 (0%)	1 (5%)	4 (14.8%)	3 (8.8%)
Referral to speech therapist to evaluate swallowing and for rehabilitation					
Always	18 (16.7%)	3 (11.1%)	1 (5%)	8 (29.6%)	6 (17.7%)
Often	13 (12%)	3 (11.1%)	4 (20%)	4 (14.8%)	2 (5.9%)
Seldom	36 (33.3%)	10 (37%)	8 (40%)	5 (18.5%)	13 (38.2%)
Never	29 (26.9%)	11 (40.7%)	6 (30%)	4 (14.8%)	8 (23.5%)
Not applicable	12 (11.1%)	0 (0%)	1 (5%)	6 (22.2%)	5 (14.7%)
A thorough review of resident's medication to determine if it could contribute to a decreased food intake or weight loss					
Always	36 (33.3%)	7 (25.9%)	8 (40%)	11 (40.7%)	10 (29.4%)
Often	26 (24.1%)	11 (40.7%)	2 (10%)	4 (14.8%)	9 (26.5%)
Seldom	22 (20.4%)	6 (22.2%)	8 (40%)	4 (14.8%)	4 (11.8%)
Never	7 (6.5%)	3 (11.1%)	1 (5%)	1 (3.7%)	2 (5.9%)
Not applicable	17 (15.7%)	0 (0%)	1 (5%)	7 (25.9%)	9 (26.5%)
*Promote more exercise/physical activity**					
Always	29 (27.1%)	3 (11.1%)	5 (25%)	10 (38.5%)	11 (32.4%)
Often	37 (34.6%)	10 (37%)	10 (50%)	10 (38.5%)	7 (20.6%)
Seldom	27 (25.2%)	9 (33.3%)	5 (25%)	3 (11.5%)	10 (29.4%)
Never	14 (13.1%)	5 (18.5%)	0 (0%)	3 (11.5%)	6 (17.7%)

* N=107; no answer indicated by 1 nursing auxiliary
** N=107; no answer indicated by 1 caregiver

3.5.1.4 Practices: Meal choices, eating assistance and nutritional care plans

Practices to offer residents choices with regards to meals (such as choice menus) were at odds, with 50% (n=54) of participants indicating that residents always or often had a choice and 50% (n=54) seldom or never gave residents a choice. However, most indicated that residents were either always or often (76.9%, n=83) served a substitute dish or food item when a specific menu option was disliked, while 23.2% (n=25) seldom or never offered the residents a substitute (Table 3.14).

All but one participant indicated that staff would always or often (99.1%, n=107) assist residents with feeding if they needed help during mealtimes. It was general practice (100%, n=107) that staff always or often allowed extra time during mealtimes for residents who eat very slowly. According to 54.7% (n=59) of participants, assistive devices were always or often used to support residents with specific problems to eat independently. Twenty-two percent (n=24) of participants reported that residents seldom or never made use of assistive eating devices (Table 3.14).

Most participants responded that residents' care plans always or often (85.7%, n=90) incorporated nutritional aspects, while 5.8% (n=6) noted that nutritional aspects were seldom or never incorporated. Of the 8.6% (n=9) that indicated 'not applicable', five participants stated that care plans had not yet been implemented at the facility and four participants felt that it was beyond their scope of practice to answer this question (Table 3.14).

Table 3.14: Practices regarding meal choices, eating assistance and nutritional care plans of nursing staff in long-term care facilities for older adults in the Cape Metropole (N=108)

Practice	Response n (%)				
	All nursing staff (N=108)	Professional nurses (n=27)	Staff nurses (n=20)	Nursing auxiliaries (n=27)	Caregivers (n=34)
Do the residents have any choices with regards to meals e.g. choice menus?					
Always	33 (30.6%)	7 (25.9%)	5 (25%)	9 (33.3%)	12 (35.5%)
Often	21 (19.4%)	6 (22.2%)	4 (20%)	5 (18.5%)	6 (17.7%)
Seldom	18 (16.7%)	4 (14.8%)	5 (25%)	2 (7.4%)	7 (20.6%)
Never	36 (33.3%)	10 (37%)	6 (30%)	11 (40.7%)	9 (26.5%)
Is a substitute dish or food item served when a resident dislikes a specific menu option?					
Always	54 (50%)	13 (48.2%)	10 (50%)	15 (55.6%)	16 (47.1%)
Often	29 (26.9%)	8 (29.6%)	5 (25%)	6 (22.2%)	10 (29.4%)
Seldom	19 (17.6%)	4 (14.8%)	3 (15%)	4 (14.8%)	8 (23.5%)
Never	6 (5.6%)	2 (7.4%)	2 (10%)	2 (7.4%)	0 (0%)

* N=107; no answer indicated by 1 professional nurse
** N=105; no answer indicated by 1 professional nurse, 1 staff nurse and 1 caregiver

Practice	Response n (%)				
	All nursing staff (N=108)	Professional nurses (n=27)	Staff nurses (n=20)	Nursing auxiliaries (n=27)	Caregivers (n=34)
Do staff assist residents with feeding if they need help during mealtimes?					
Always	104 (96.3%)	26 (96.3%)	20 (100%)	27 (100%)	31 (91.2%)
Often	3 (2.8%)	1 (3.7%)	0 (0%)	0 (0%)	2 (5.9%)
Seldom	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Never	1 (0.9%)	0 (0%)	0 (0%)	0 (0%)	1 (2.9%)
*Do staff allow extra time during mealtimes for residents who eat very slowly?**					
Always	104 (97.2%)	26 (100%)	19 (95%)	26 (96.3%)	33 (97.1%)
Often	3 (2.8%)	0 (0%)	1 (5%)	1 (3.7%)	1 (2.9%)
Seldom	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Never	0 (0%)	0 (0%)	0 (0%)	0 (0%)	0 (0%)
Does the facility make use of assistive devices (eating aids e.g. plate guard, modified spoon) to assist residents with specific problems to eat independently?					
Always	41 (38%)	5 (18.5%)	10 (50%)	16 (59.3%)	10 (29.4%)
Often	18 (16.7%)	5 (18.5%)	5 (25%)	2 (7.4%)	6 (17.7%)
Seldom	24 (22.2%)	10 (37%)	4 (20%)	5 (18.5%)	5 (14.7%)
Never	24 (22.2%)	7 (25.9%)	1 (5%)	3 (11.1%)	13 (38.2%)
Not applicable	1 (0.9%)	0 (0%)	0 (0%)	1 (3.7%)	0 (0%)
*Do residents' care plans incorporate nutritional aspects e.g. special dietary needs, supplementation?***					
Always	60 (57.1%)	16 (61.6%)	13 (68.4%)	14 (51.9%)	17 (51.5%)
Often	30 (28.6%)	8 (30.8%)	4 (21.1%)	9 (33.3%)	9 (27.3%)
Seldom	3 (2.9%)	1 (3.9%)	0 (0%)	0 (0%)	2 (6.1%)
Never	3 (2.9%)	0 (0%)	1 (5.3%)	2 (7.4%)	0 (0%)
Not applicable	9 (8.6%)	1 (3.9%)	1 (5.3%)	2 (7.4%)	5 (15.2%)

* N=107; no answer indicated by 1 professional nurse
** N=105; no answer indicated by 1 professional nurse, 1 staff nurse and 1 caregiver

3.5.2 Practices of the different categories of nursing staff

Results with regards to the practices of the different categories of nursing staff were presented above within Table 3.11-3.14.

There were some differences in the area of assessment of weight and nutritional status within the different categories of nursing staff. A higher percentage of staff nurses (47.4%, n=9) indicated that residents would only be weighed if requested by a doctor, in comparison

to other nursing staff categories: professional nurses (20.8%, n=5), nursing auxiliaries (18.2%, n=4) and caregivers (20.7%, n=6).

There was no standardised method used by nursing staff to weigh residents. Almost half (47.6%, n=10) of the professional nurses indicated that they weighed residents with all clothing and shoes, 23.8% (n=5) with all clothing but without shoes and 28.6% (n=6) without heavy clothing or shoes. Half of staff nurses (50%, n=9) and 47.6% (n=10) of nursing auxiliaries weighed residents with all clothing but without shoes. Caregivers' responses varied, with 37.9% (n=11) weighing residents with all clothing and shoes, 34.5% (n=10) with all clothing but without shoes and 27.6% (n=8) without heavy clothing or shoes (Table 3.11).

Validated nutritional screening and assessment tools (BMI, MNA short form and the comprehensive MNA form) were used more often by professional nurses (18.5% (n=5), 18.5% (n=5), 11.1% (n=3)) and staff nurses (25% (n=5), 30% (n=6), 0% (n=0)) in comparison with nursing auxiliaries (7.4% (n=2), 11.1% (n=3), 0% (n=0)) and caregivers (11.8% (n=4), 12.1% (n=4), 3% (n=1)) (Table 3.11).

Nursing staff's practices on reporting and documentation of decreased food intake and supplementation were very similar. The exception was that a higher percentage of professional nurses (81.5%, n=22) and staff nurses (55%, n=11) indicated that they would report inadequate food intake at a meal if more than half of the food was left on a resident's plate, while 74.1% (n=20) of nursing auxiliaries and 55.9% (n=19) of caregivers stated that inadequate food intake would only be reported if more than three-quarters of food was left on a resident's plate (Table 3.12).

All nursing staff categories, except caregivers, indicated commercial supplements as the most frequently used intervention to address UWL in older adults. Caregivers indicated that commercial supplements would be considered as intervention by 85.4% (n=29) when 'always' and 'often' responses were combined in comparison to 96.3% (n=26) of professional nurses, 95% (n=19) of staff nurses and 96.3% (n=26) of nursing auxiliaries. When considering combined responses of 'always' and often' in relation to 'home-made' supplements, professional nurses noted that they make use of this intervention less often (44.4%, n=12) than the other nursing staff categories: staff nurses (60%, n=12), nursing auxiliaries (59.2%, n=16) and caregivers (58.8%, n=20) (Table 3.13).

Eighty-five percent (n=17) of staff nurses and 77.8% (n=21) of professional nurses indicated that vitamin and/or mineral supplements would be used always or often as intervention to

address UWL, in contrast to 58.9% (n=20) of caregivers and 53.8% (n=14) of nursing auxiliaries. It needs to be considered, however, that 19.2% (n=5) of nursing auxiliaries and 23.5% (n=8) of caregivers felt that they could not answer this question because it was beyond their scope of practice (Table 3.13).

According to caregivers taking food preferences and aversions into consideration, was the most favoured intervention in addressing UWL in older adults. With the exception of a lower response from nursing auxiliaries (70.4%, n=19), all other categories of nursing staff indicated to frequently make use of this intervention (combined 'always' and 'often' responses): professional nurses (88.9%, n=24), staff nurses (85%, n=17) and caregivers (91.2%, n=31) (Table 3.13).

When combining 'always' and 'often' responses, it is evident that the most caregivers (76.5%, n=26 and 26.5%, n=9) and the least professional nurses (59.2%, n=16 and 7.4%, n=2) indicated that they respectively employ the interventions of providing additional snacks during the day, and replacing an individual's special diet with normal food. Fewer professional nurses (40.7%, n=11) indicated that they 'always' or 'often' provide smaller meals more regularly as an intervention in comparison to the other three nursing staff categories (staff nurses: 60% (n=12), nursing auxiliaries: 59.2% (n=16), caregivers: 61.8% (n=21)). (Table 3.13).

More staff nurses (75%, n=15) and nursing auxiliaries (76.9%, n=20) indicated that they would always or often promote exercise or physical activity to address UWL, in comparison to 52.9% (n=18) of caregivers and 48.2% (n=13) of professional nurses (Table 3.13).

The only different response pattern regarding meal choices, eating assistance and nutritional care plan practices, was in the facilities' use of assistive devices (eating aids e.g. plate guard, modified spoon) to assist residents with specific problems related to independent eating. Seventy-five percent (75%, n=15) of staff nurses and 66.7% (n=18) of nursing auxiliaries indicated that residents would always or often make use of assistive devices, in comparison to 37% (n=10) of professional nurses and 47.1% (n=16) of caregivers (Table 3.14).

3.5.3 Practices of nursing staff across all categories working in subsidised and non-subsidised long-term care facilities

A comparison was made between the practices of nursing staff across all categories working at subsidised vs. non-subsidised LTCFs. Although most nursing staff indicated that

residents were weighed at the facility they work at, this practice was more common at subsidised LTCFs (91.7%, n=55) than at non-subsidised LTCFs (81.3%, n=39).

The frequency of weighing residents was similar at the different facility types, with exception of weighing residents when weight loss was suspected and at the request of a doctor. Forty-seven percent (47.3%, n=26) of nursing staff from subsidised LTCFs and 25.6% (n=10) from non-subsidised LTCFs noted that residents were only weighed when it was suspected that the older person had lost weight. Thirty-five percent (34.6%, n=19) of staff from subsidised LTCFs and 12.8% (n=5) from non-subsidised LTCFs indicated that residents were only weighed if requested by a doctor.

Practices on how residents were weighed at non-subsidised- and subsidised LTCFs differed, with 37.8% (n=14) and 26.9% (n=14) respectively stating that residents were weighed with all clothing and shoes, 21.6% (n=8) and 50% (n=26) with all clothing but without shoes while, 40.5% (n=15) and 23.1% (n=12) were being weighed without heavy clothing and without shoes.

Seven percent (6.9%, n=4) of the participants at subsidised LTCFs indicated the use of the comprehensive MNA, while it was used at none of the non-subsidised LTCFs.

Fifty-eight percent (58.3%, n=28) of nursing staff at non-subsidised LTCFs indicated that they would report a poor food intake of a resident if more than half of the food was left on his/her plate, while 55% (n=33) of nursing staff at subsidised LTCFs indicated that intake would only be reported if three-quarters of food was left uneaten. Ninety-five percent (95%, n=57) of nursing staff at subsidised LTCFs noted that the intake of supplements was always and 3.3% (n=2) sometimes documented, in comparison to non-subsidised LTCFs where 68.8% (n=33) of intake was always and 18.8% (n=9) sometimes documented.

Respectively 71.1% (n=43) and 63.3% (n=38) of nursing staff in subsidised LTCFs ‘always’ or ‘often’ made use of the promotion of exercise or physical activity, and the provision of smaller more frequent meals, while only by 48.9% (n=23) and 45.8% (n=22) in non-subsidised LTCFs.

The following interventions were used more frequently (combination of ‘always’ and ‘often’ responses) at subsidised LTCFs in comparison to non-subsidised LTCFs: referral to doctor for medical evaluation (91.7%, n=55 vs. 71.3%, n=34), vitamin and/or mineral supplements (74.6%, n=44 vs. 58%, n=28), a thorough review of a resident’s medication (68.3%, n=41 vs.

43.8%, n=21), referral to a dietitian (60%, n=36 vs. 37.5%, n=18), referral to a speech therapist (40%, n=24 vs. 14.6%, n=7). However, between 8.5% and 22.9% of participants indicated 'not applicable' because it was beyond their scope of practice.

Figure 3.2 depicts the differences in the percentage of nursing staff working at subsidised and non-subsidised LTCFs who indicated that a specific intervention was made use of to address UWL in older adults.

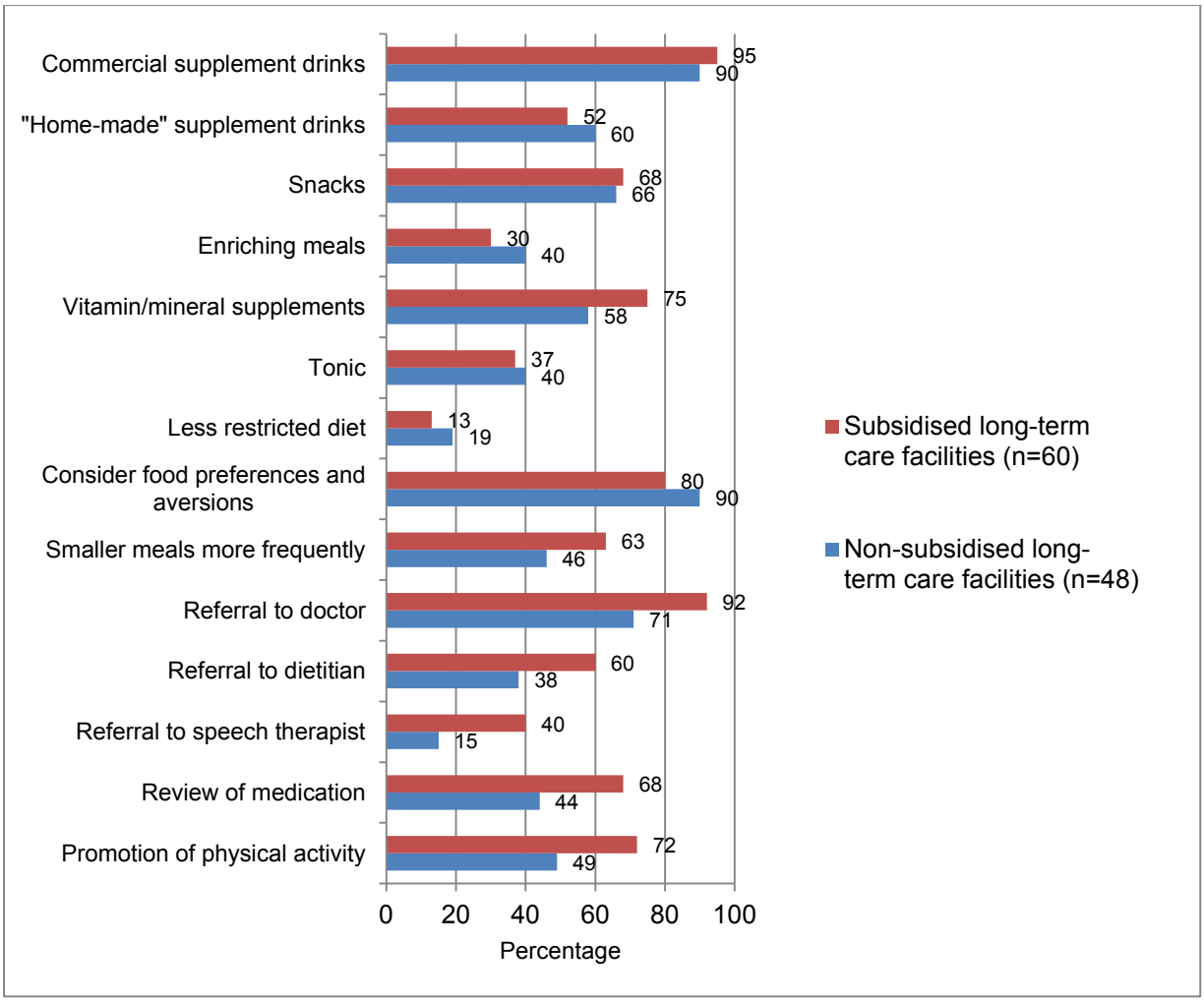

Figure 3.2: Comparison of the percentage of nursing staff working at subsidised and non-subsidised long-term care facilities in the Cape Metropole who indicated that a specific intervention was made use of to address unintentional weight loss in older adults (N=108)

Nursing staff at non-subsidised LTCFs indicated that choices with regards to meals as well as the serving of a substitute dish or food item to accommodate a resident's food preferences, were used often or seldom by 75% (n=36) and 83.3% (n=40) respectively, in

comparison to 30% (n=18) and 71.7% (n=43) at subsidised LTCFs. Nursing staff at subsidised LTCFs indicated a greater use of assistive eating devices to help residents with specific problems related to independent eating: 68.3% (n=41) indicated that assistive eating devices were used always or often in comparison to 37.5% (n=18) at non-subsidised LTCFs.

Table 3.12 summarises the positive practices regarding the identification and management of UWL in older adults used more often by nursing staff working in subsidised and non-subsidised LTCFs as described in the section above. A positive practice that stood out at subsidised LTCFs is that nursing staff reportedly make more use of interventions to address weight loss in older adults in comparison to non-subsidised LTCFs. Conversely, nursing staff at non-subsidised LTCFs generally reported inadequate food intake of residents sooner and offered individual residents more choices regarding meals with a wider accommodation of food preferences.

Table 3.15: Summary of the main differences in practices across all categories of nursing staff regarding the identification and management of unintentional weight loss in older adults residing in subsidised and non-subsidised long-term care facilities in the Cape Metropole

Subsidised long-term care facilities	Non-subsidised long-term care facilities

• Residents are weighed more often. (However, a higher percentage of residents were only weighed if requested by a doctor or if weight loss was suspected.)
• Higher documentation of supplement intake.
• Increased use of the following interventions to address unintentional weight loss:
  ○ Smaller more frequent meals
  ○ Promotion of exercise or physical activity
  ○ Referral to doctor for medical evaluation
  ○ Vitamin and/or mineral supplements
  ○ Thorough review of medication
  ○ Referral to dietitian
  ○ Referral to speech therapist
• More frequent use of assistive eating devices.
	• Inadequate food intake during a meal will be reported sooner (mostly if half of plate of food is uneaten).
	• Individual residents have more choices regarding meals.
	• Serving of a substitute dish or food item to accommodate a resident's food preferences was more common.

3.5.4 Facilities' practices regarding the identification and management of depression risk assessment, oral examinations and exercise programmes

This section reports information indicated on the facility questionnaires (n=15) to gain more insight into facilities' practices regarding depression risk assessment, oral examinations and exercise programmes.

Depression risk assessment was performed at one facility, and involved an evaluation by the facility's psychiatric nurse or social worker when a resident seemed depressed. Furthermore, five of the fifteen facilities noted that they would refer a resident to their general practitioner if depression was a concern.

All facilities reported to do an informal oral examination by a professional nurse whenever it was suspected that a resident experienced any oral health problems. Three facilities indicated that they perform daily oral examinations, while one facility was conducting spot checks by a professional nurse every day.

All facilities offered an exercise programme to residents. Most facilities (8 of 15) reported to have an exercise class once a week, one facility 2-3 times per week, three facilities daily and one facility only once a month. The types of exercises usually included chair, stretch and ball exercises.

3.6 ACCEPTANCE OR REJECTION OF HYPOTHESES

The hypothesis '$H_{0:}$ There is no difference between the knowledge, perceptions and practices of the different levels of nursing staff' is rejected with regards to knowledge and perceptions. A statistically significant difference was found between the total knowledge scores of the different categories of nursing staff ($p<0.001$) (Section 3.3.2). There was a statistically significant difference in 3 of the 14 perception statements ($p=0.003$-0.009) (Section 3.5.2). Although differences in practices were identified between the different categories of nursing staff as well as nursing staff working at different facility types, data of questions about the practices of nursing staff did not lend itself towards interferential statistics. Hence, this part of both hypotheses stated in 2.1.3 could not be accepted or rejected.

The hypothesis '$H_{0:}$ There is no difference in the knowledge, perceptions and practices of nursing staff working at subsidised and non-subsidised LTCFs' is accepted with regards to knowledge and perceptions. No statistically significant difference was found between the

total knowledge scores of nursing staff working at different facility types (p=0.828) (Section 3.3.3). There was a statistically significant difference in only 1 of the 14 perception statements (p=0.041) (Section 3.5.3). Statistically significant differences in practices were not determined.

3.7 BARRIERS TO NURSING STAFF AND FACILITIES IN THE IDENTIFICATION AND MANAGEMENT OF UNINTENTIONAL WEIGHT LOSS IN OLDER ADULTS IN LONG-TERM CARE FACILITIES IN THE CAPE METROPOLE

Several barriers have emerged from the results presented above regarding the identification and management of unintentional weight loss in older adults residing in LTCFs. These barriers have been mentioned earlier in this chapter and will only be summarised below to avoid unnecessary repetition.

3.7.1 Barriers experienced by nursing staff across all categories

Nursing staff across all categories had a low score in the **knowledge** area of weight loss in older adults (refer to section 3.3.1.1):

- 34% did not agree that weight loss was common in older people.
- 39% noted that weight loss in older adults was ascribed to the ageing process and could not be prevented.
- 36% indicated that a decreased food intake was the most reliable indicator of weight loss.
- 30% responded that only a weight loss of 20% during a 6-12 month period would indicate weight loss enough to raise concern.

There were also many ‘uncertain’ responses to whether specific factors or conditions could contribute to weight loss or could be possible consequences of UWL. Most of these responses were made by nursing auxiliaries and caregivers (refer to Tables 3.4 and 3.5).

Barriers related to the **perceptions** of nursing staff include the following:

- 46% agreed and strongly agreed that malnutrition is uncommon in LTCFs (refer to section 3.5.1.2).
- 45% agreed and strongly agreed that it is normal for an older adult to have a poor appetite (refer to section 3.5.1.3).
- 23% did not feel that they had sufficient knowledge to evaluate a resident’s nutritional status (refer to section 3.5.1.5).

- 10% felt that they did not know what to do if a resident has unintended weight loss (refer to section 3.5.1.5).

Barriers identified related to the **practices** of nursing staff were as follows:

- 38% of residents were only weighed if weight loss was suspected and 26% only if requested by a doctor.
- No standard weighing practice was followed.
- Limited use of validated nutritional screening and assessment tools: BMI (15%), MNA short form (17%), comprehensive MNA form (4%) (refer to section 3.4.1.1 for the three above-mentioned barriers).

3.7.2 Barriers according to specific nursing staff category

Barriers regarding **knowledge** include:

- Scores for total knowledge, as well as the three knowledge areas (weight loss, factors/conditions contributing to UWL and possible consequences of UWL) decreased with lower nursing staff positions (refer to section 3.3.2).
- Most 'unsure' responses to knowledge questions were made by nursing auxiliaries and caregivers (refer to section 3.6.1).

Barriers regarding **practices** were as follows:

- 47% of staff nurses indicated to only weigh residents if it was requested by a doctor. However, it needs to be considered that most staff nurses were employed at subsidised facilities and were not equally distributed within participating facilities.
- Validated nutritional screening and assessment tools (BMI, MNA short form and the comprehensive MNA form) were used less often by nursing auxiliaries (7%, 11%, 0%) and caregivers (12%, 12%, 3%) in comparison to professional nurses (19%, 19%, 11%) and staff nurses (25%, 30%, 0%).
- 74% of nursing auxiliaries and 56% of caregivers indicated to only report a poor food intake at a meal if more than three-quarters of food was left on a resident's plate (refer to section 3.4.2 for all three above-mentioned barriers).

3.7.3 Barriers to facilities in general

- Inadequate procedures in place to identify significant unintentional weight loss or assess nutritional status of older adults (refer to barriers to nursing staff in section 3.6.1).

- Inadequate procedures in place to identify older adults at risk for depression and oral health problems (refer to section 3.4.4).
- 50% of residents seldom or never had choices with regards to meals (refer to section 3.4.1.4).

3.7.4 Barriers according to the type of facility

The following barriers were identified for **subsidised** LTCFs:

- Staffing demographics: subsidised LTCFs had fewer professional nurses in their employment.
- 55% of nursing staff at subsidised LTCFs only report a poor food intake if three-quarters of food on plate was left uneaten.
- Although a higher percentage of participants at subsidised LTCFs indicated that residents' weight was measured, residents would more often only be weighed on request of a doctor or if weight loss was suspected.
- Individual residents had fewer choices regarding meals.

Barriers for **non-subsidised** LTCFs were as follows:

- Non-subsidised LTCFs reportedly made less use of interventions to address weight loss in older adults in comparison to subsidised LTCFs.
- Less frequent use of assistive eating devices.
- Less frequent documentation of supplement intake.

3.8 CONCLUDING STATEMENT ON RESULTS

Data indicated that nursing staff across all categories had a low score in the knowledge area of weight loss in older adults and that less than a quarter of participants could correctly identify the unintentional weight loss in 6 to 12 months that is significant enough to raise concern with regards to older adults residing in LTCFs. There was a statistically significant difference in scores for total knowledge, as well as the three knowledge areas for the different categories of nursing staff, with a decline in scores as the position level of nursing staff decreased.

Participants' responses across all categories showed that facilities do not have adequate strategies implemented to identify significant unintentional weight loss or to assess nutritional status of older adults for malnutrition or risk of malnutrition. Not all facilities weighed residents, and many of the facilities that did weigh residents did it infrequently and

followed no standard weighing practice. Except for the measurement of weight, there was a very limited use of nutritional screening or assessment tools. Furthermore, almost half of participants had the perception that malnutrition is uncommon in LTCFs for older adults. Several barriers have emerged from the presented results regarding the identification and management of unintentional weight loss in older adults residing in LTCFs.

CHAPTER 4: DISCUSSION

4.1 INTRODUCTION

The primary objective of this study was to determine the knowledge, perceptions and practices of nursing staff regarding the identification and management of unintentional weight loss (UWL) in older adults residing in long-term care facilities (LTCFs) in the Cape Metropole. Secondary to the main objective, the aim was to compare the knowledge, perceptions and practices of nursing staff within the different categories of nursing staff and within the different facility types. The study also aimed to identify apparent barriers to nursing staff in the identification and management of UWL in older adults in LTCFs in the Cape Metropole.

To the researcher's knowledge there has not been any published literature regarding this field of research in a South African study population, and only a limited number of studies have been published internationally. This study, although relatively small, provides valuable baseline data that can be used to address the challenge of unintentional weight loss in LTCFs.

The discussion will begin with a summary of the study's findings with regards to the knowledge and perceptions of nursing staff. Thereafter important aspects regarding the identification and management of UWL in LTCFs will be discussed with specific reference to nursing staff's practices and facets relating to their knowledge and perceptions.

4.2 THE KNOWLEDGE OF NURSING STAFF REGARDING THE IDENTIFICATION AND MANAGEMENT OF UNINTENTIONAL WEIGHT LOSS IN OLDER ADULTS RESIDING IN LONG-TERM CARE FACILITIES IN THE CAPE METROPOLE

The mean total knowledge score obtained for nursing staff across all categories was within the same range (60-65%) as the scores previously reported internationally from knowledge questionnaires completed by nursing staff working in long-term care facilities (LTCFs) for older adults.[58,49,45,47] Lower scores was reported in a survey by Beattie et al. in which case all categories of staff obtained a mean score of only 47% (n=76) when answering 10 multiple-choice questions, with nursing staff achieving a slightly higher mean score of 55%.[48]

The mean knowledge scores noted in these studies were, however, based on results from different questionnaires, testing slightly different areas of knowledge about nutritional

aspects of the institutionalised older adult. This study's knowledge questions focussed on weight loss, factors or conditions contributing to UWL and consequences of UWL in older adults. The questionnaires used in the above-mentioned studies also tested other domains of nutrition knowledge related to macro- and micronutrients, fluid requirements and the relationship between nutrients and medical conditions.[58,49,45,47,48]

The results from the current study indicate that insufficient knowledge across all categories was most apparent with regards to the knowledge area of weight loss and also to a certain extent, the consequences of UWL. The same group, however, achieved satisfactory knowledge scores in questions regarding factors or conditions contributing to UWL. Professional nurses had only a slightly better average score with regards to weight loss aspects in comparison to the other nursing staff categories. Their relatively good knowledge of factors or conditions contributing to UWL is comparable to the highest score achieved (76%) by nursing staff from the study by Beattie et al. for the question 'Which of the following factors contribute to malnutrition in nursing home residents?'.[48] The nursing staff in this study might have had observational experiences in how certain factors or conditions have contributed to weight loss in older adults in their care, hence their higher score in this knowledge area. Similarly, nursing staff may also have witnessed how older adults in their care who lose weight, have been affected. Conversely, the knowledge area regarding weight loss requires a higher level of theoretical knowledge and will not necessarily increase with practical experience. The low score in questions regarding weight loss may perhaps point to a shortfall in the curriculum content of nursing staff courses and qualifications and therefore warrants further investigation.

Crogan et al. found overall knowledge scores between the two nursing staff categories included in his study to differ significantly, with registered nurses scoring higher than licensed practical nurses[45], and although not statistically significant, Beattie et al. found a tendency for nutrition knowledge scores to increase with education levels.[48]

The current study also shows a definite statistically significant difference in the total knowledge score between the different categories of nursing staff, with the total knowledge score increasing with nursing position (which also implies level of education). This is most probably attributed to nursing staff's exposure to nutrition education as part of their nursing qualification. Most 'unsure' responses to knowledge questions were made by nursing auxiliaries and caregivers, reflective of their lower level of knowledge.

Professional nurses play an important role in the nursing team, being the members in the team with the highest level of knowledge. It is however important that they keep their knowledge up-to-date by continuous professional development, especially in the area of nutrition for older people. Their role with regarding the implementation of policies and procedures in LTCFs, as well as provision of supervision and training to the other members of the nursing team, needs to be defined. The lower levels of nursing staff spend more time with residents and need effective support in the form of standard procedures and training to be able to identify and report nutritional problems in time, decreasing residents' risk of malnutrition.

There is a need for continuous development for nursing staff working at LTCFs. Periodic in-service training by a dietitian, experienced in the field of nutrition for older adults, need to be considered to present up-to-date information and to review important aspects with regards to nutritional assessment and the nutritional needs of older adults as also recommended by Stanek et al.[58]

4.3 THE PERCEPTIONS OF NURSING STAFF REGARDING THE IDENTIFICATION AND MANAGEMENT OF UNINTENTIONAL WEIGHT LOSS IN OLDER ADULTS RESIDING IN LONG-TERM CARE FACILITIES IN THE CAPE METROPOLE

In general, the majority of participants had positive responses towards the perception statements in the five different domains. The exception was mainly with two statements where about half of the participants had the misperception that malnutrition is uncommon in older adults residing in LTCFs, and that it is normal for an older adult to have a poor appetite. These perceptions are a cause for concern and highlight aspects that need to be addressed as discussed further in Section 4.4.1 and Section 4.5.2 respectively.

There were no significant differences in the perceptions of the different categories of nursing staff regarding almost all of the perception statements. The exception was three statements regarding meals and eating ('It is normal for an older adult to have a poor appetite', 'It is of no use to train residents with eating problems to eat by themselves', 'Eating nutritious meals is more important for younger individuals than for older people') which is indicative of ignorance. Professional- and staff nurses disagreed more with these statements, than the nursing auxiliaries and caregivers. As professional and staff nurses had a higher knowledge score, the other two nursing staff categories' perceptions to the three above-mentioned

statements may be indicative of a lack of knowledge. Nursing auxiliaries' and caregivers' lack of knowledge regarding the nutritional needs of older adults needs to be addressed with training, in order to influence their perceptions and consequently their practices. If not, older adults residing in LTCFs will continue to be neglected through staff's misperceptions.

Perceptions of nursing staff working at subsidised vs. non-subsidised LTCFs were similar. The only exception – representing a statistically significant difference - was that participants at non-subsidised LTCFs were more positive regarding nursing staff having the major role of identifying residents that are malnourished or at risk of malnutrition in LTCFs. Although not statistically significant, there was also a tendency for nursing staff from non-subsidised facilities to indicate more positive responses towards the importance of monitoring resident's weight periodically. Nursing staff working at subsidised facilities would more often only weigh residents when weight loss was suspected or on the request of a doctor. This practice may possibly be influenced by nursing staff's less positive perceptions regarding their role in nutritional assessment and the importance of weight measurement in comparison to nursing staff working at non-subsidised LTCFs.

4.4 THE PRACTICES OF NURSING STAFF REGARDING AND BARRIERS TOWARDS THE IDENTIFICATION AND MANAGEMENT OF UNINTENTIONAL WEIGHT LOSS IN OLDER ADULTS RESIDING IN LONG-TERM CARE FACILITIES IN THE CAPE METROPOLE

The following discussion will highlight important aspects and/or barriers regarding the identification and management of UWL in LTCFs with reference to nursing staff's practices and related facets of their knowledge and perceptions.

4.4.1 Identification of unintentional weight loss in older adults residing in long-term care facilities

Lack of knowledge has previously been established as a major barrier to the prevention of malnutrition[29] and the current data supports that this is also the case in LTCFs in the Cape Metropole of South Africa. It is of concern that many nursing staff participants did not recognise and/or perceive weight loss and wasting or malnutrition to be common in older adults in LTCFs, while literature indicates malnutrition to be as high as 12% to 71% amongst older adults, depending on factors such as type of facility and characteristics of study participants.[10,15-17] The participants' perceptions and resulting practices may be influenced

by their lack of knowledge regarding weight loss in older adults as discussed above in Section 4.2.

A substantial number of the nursing staff participants thought and/or perceived that weight loss in older adults could be ascribed to the ageing process and could not be prevented. Many participants also indicated a much higher weight loss over a 12-month period as part of the natural ageing process than what is generally accepted.[18] In addition, a high percentage of participants would only raise concern after a significant amount of weight loss has occurred in older persons, much higher than the acceptable norm.[19] Although nursing staff had limited knowledge regarding the definition of significant weight loss, nine out of ten participants had the perception that they had sufficient knowledge to assess whether a resident's change in weight is of concern to his/her wellbeing. Furthermore, only two fifths of participants knew that the most reliable indicator of weight loss in older adults is if the person loses weight according to a scale. Over one third of participants indicated that a decreased food intake was the most reliable indicator of weight loss, another example of how incorrect knowledge can influence practices.

The consequence of such insufficient knowledge and poor perceptions regarding acceptable weight loss in older adults, is that many older adults residing in LTCFs may unintentionally lose a substantial amount of weight before it will be recognised and before concern is raised so that action can be taken. Literature shows clearly that UWL encountered amongst older adults in LTCFs is as high as 50% to 60%[21] and is associated with several negative outcomes such as an increased risk of mortality and in-hospital complications, a decline in activities of daily living and a decrease in quality of life.[2] It is therefore of the utmost importance that nursing staff must have sufficient knowledge regarding weight loss in older adults and are equipped on how to identify warning signs and a significant weight loss, since this lack of knowledge impacts their perceptions and practices as shown with the results presented earlier.

4.4.2 Assessment of weight and nutritional status of older adults residing in long-term care facilities

Although residents were weighed and monitored for weight loss by most participants, one third did not weigh residents regularly at the facilities included in this study. A higher percentage of participants at subsidised LTCFs indicated that residents' weight was measured, however, residents would often only be weighed on request of a doctor or if weight loss was suspected. This finding is concurrent with the less positive perceptions of

nursing staff working at subsidised LTCFs regarding their role in nutritional assessment and the importance of periodic weight measurement in comparison to nursing staff working at non-subsidised LTCFs.

Nine out of ten participants in this study had the opinion that it is important to weigh residents monthly, however less than two-thirds confirmed this practice. A similar trend was reported by Munch et al. where a third of nursing staff had the opinion that older adults with a standard weight should be weighed once a month, while only one out of eight participants practised this procedure.[50] These findings suggest that the perception and willingness to weigh residents do not correspond with what is done in practice. Possible barriers may include lacking standard procedures regarding weight monitoring or a lower priority level in comparison to other nursing staff duties.

Furthermore, even if residents were weighed and weight loss monitored, over three-quarters of nursing staff in this study could not identify a significant weight loss in an older adult correctly due to an apparent lack of knowledge. The accuracy of weight measurements is also questionable with no standard method of weighing being used. While some residents were weighed with shoes and/or heavy clothing, others were weighed without shoes and/or heavy clothing. Scales were also not always placed on the same type of surface when weighing residents. Different practices being followed by nursing staff at the same facility, is indicative of either lacking standardised procedures or non-adherence to these procedures. There are multiple consequences to these unstandardised weighing practices. Inaccurate measurements could cause weight loss to go undetected, older adults' nutritional status may be graded incorrectly, and the effectiveness of nutrition interventions may be evaluated incorrectly if imprecise weight measurements are compared with each other.

The majority of participants had the opinion that nursing staff has the major role in identifying residents who are malnourished or at risk of malnutrition in LTCFs, but one-quarter of staff perceived that they did not have sufficient knowledge on how to evaluate a resident's nutritional status. In spite of the majority of participants' recognition of the importance of monitoring a resident's nutritional status periodically, and their perception on their role and knowledge regarding nutritional status assessment, there was a very limited use of validated nutritional screening- or assessment tools. Both the Body Mass Index (BMI) and Mini Nutritional Assessment (MNA) form were seldom used and the comprehensive MNA form only by a small minority working at one of the subsidised LTCFs. These tools were more often used by professional and staff nurses than nursing auxiliaries and caregivers. It is recommended that an older adult's nutritional status should be assessed at regular intervals

as part of a comprehensive assessment. The MNA is not only the best validated and most widely used screening tool to evaluate the nutritional status of older adults, but also quick and simple to use. The MNA can be used to guide nutritional interventions, and also to evaluate the effectiveness of implemented interventions.[24]

Putting theory and perceptions into practice seems to be a common problem with the implementation of nutritional screening and assessment methods. The current findings are supported by the results of several international studies. These studies have found a much higher knowledge and/or perception regarding the importance of nutritional assessment activities in comparison to what was carried out in practice.[45,48,50] Two of these studies have also indicated that there was a positive correlation between nutritional assessment activities and nutrition knowledge. These studies, however, did not only evaluate the use of methods/tools to evaluate nutritional status, but considered a wider range of nutritional assessment activities such as percentage of meal consumed, fluid intake/output, chewing difficulties and swallowing problems.[45,48]

A study by Riviere et al. indicated that a nutritional education programme consisting of nine sessions over a one-year period, focussing on caregivers of residents with Alzheimer's disease, had a positive effect on residents' weight, mood and cognitive function.[56] A more recent study by Suominen et al. also showed the benefits of a nutrition education programme and found that the residents' mean energy and protein intake, as well as their MNA results were positively impacted by education of staff working at the facility.[57]

A combination of training to address the lack of knowledge, as well as implementation of standardised procedures, will therefore be necessary to resolve the problem of not effectively identifying and addressing nutritional problems of residents that can contribute to UWL and a decrease in their nutritional status.

4.5 MANAGEMENT OF UNINTENTIONAL WEIGHT LOSS IN OLDER ADULTS RESIDING IN LONG-TERM CARE FACILITIES

UWL in older adults can be prevented, minimised and/or treated through several interventions. The practices of the nursing staff population will be discussed according to the different aspects explored in this study.

4.5.1 Meal choices and eating assistance

Even though half of participants indicated that residents were seldom or never offered any choices with regards to meals (such as choice menus), most participants indicated that residents were served a substitute dish or food item when a specific menu option was disliked. Individual residents at non-subsidised LTCFs generally had more choices regarding meals and a wider accommodation of residents' food preferences were also more common. This may be because non-subsidised LTCFs have a bigger budget available for the provision of meals. Crogan et al. (2001) identified the most common barrier to nutrition care to be that residents sometimes do not like the food that is served.[23]

Nevertheless, it is important that LTCFs are aware of the importance of choice with regards to meals for individual residents and aim to provide as much choice as possible. Mealtimes give residents a sense of belonging, security and structure to their day, as well as a sense of independence when given the opportunity to make their own choices regarding meals.[6] Kane et al. found that residents prioritised having choice and control over their food, when asked to rank choice and control in several aspects of their everyday life in a LTCF.[59] When residents are able to regularly eat food that they enjoy, it not only positively impacts their quality of life, but may also limit a decrease in their food intake and benefit their nutritional status over the long-term.

The importance of individualising meals for residents with specific nutritional requirements was a generally accepted perception across all nursing staff categories and facility types in this study and corresponded with most participants also indicating that residents' care plans incorporate nutritional aspects such as special dietary needs. Although the importance of nutritious meals for older people was recognised by the majority of nursing staff, some (especially nursing auxiliaries and caregivers) felt that eating nutritious meals is more important for younger individuals than for older adults (refer to Section 4.2). This is a very important aspect to address since these staff categories, especially caregivers, are usually responsible for assisting residents during meals.

Several recommended interventions and best practice towards the management of UWL in older adults with regards to meals and mealtimes in LTCFs were found to be general practice. These practices include assisting residents that needed help during mealtimes, allowing extra time during mealtimes for residents who eat very slowly, and using assistive devices to support residents with specific problems to eat independently by more than half of participants. The above-mentioned practices and the perception that there was enough time

to assist residents that needed help at mealtimes are reassuring as there are other studies that indicated that residents do not get enough assistance with eating.[23,60]

Although not commonly perceived by all, more nursing auxiliaries and especially caregivers, felt that it is of no use to teach residents with eating problems to eat independently. If residents regain the ability to eat independently at mealtimes, it will not only improve their quality of life, but may also decrease the workload on nursing staff, especially caregivers. Research found that eating independently was positively associated with quality of life in cognitively impaired residents. The sense of control in eating independently can increase residents' enjoyment and pleasure with mealtimes.[61]

The environment within LTCFs often limits residents' capacity to eat independently.[62] Nursing staff may incorrectly assume that an older adult's reduced functional ability may be due to a worsening condition such as dementia, without realising that there might be an opportunity to reverse a treatable disability. A study by Slaughter et al. has indicated that the risk for an eating disability is double in less supportive environments compared to more supporting environments.[62] In less supportive environments nursing staff may find it easier to feed a resident with an eating disability than to take the time to provide minimal support and verbal prompts encouraging the maximal level of independence in eating. It is vital that all nursing staff should be knowledgeable regarding the importance of promoting independence in eating and management should be aware of the value of creating a more supportive social and physical environment that will encourage independent eating.

4.5.2 Reporting and documentation of decreased food intake and use of individualised nutritional care plans

When more than one-quarter of food is left on the plate by an older adult residing in a LTCF, it could be a warning sign, signalling an underlying physiological, psychological or social factor which could lead to UWL and concern should be raised by the nursing staff member.

A study found that leaving one-quarter of a meal uneaten was independently associated with increased severity of chronic malnutrition, with older adults who did not eat at least three-quarters of their meal being three times more likely to be chronically malnourished in comparison to the residents who ate the full portion.[17] Another study had similar findings that showed eating less than half of the offered portion to be associated with malnutrition.[10]

Although all nursing staff participants in this study would report if a resident's food intake was less than usual, the general practice was to report plate waste of either more than half

or more than three-quarters of a meal. Professional- and staff nurses tended to report inadequate food intake at a meal sooner in comparison to nursing auxiliaries and caregivers, and also sooner at non-subsidised LTCFs in comparison to subsidised LTCFs. It is essential that nursing staff need to be educated on when to report an inadequate food intake of older adults.

The practice of only reporting very high plate waste could be explained by the perception that it is normal for an older adult to have a poor appetite by almost half of participants (significantly so for lower categories of nursing staff) in this study. Similarly, a study by Brown and Copeman showed that staff from all categories considered a poor appetite to be a 'normal' part of ageing.[52] A review article identified that several age-associated physiological changes, such as changes in the neuroendocrine axis, slowed gastric emptying and declining smell and taste perception, are associated with a reduced appetite and early satiety.[2] There are, however, many other factors that can contribute to a reduced dietary intake and consequent malnutrition, such as depression, oral problems and medication side effects which may be amendable if identified early.[12] Hence, it is important to do a comprehensive assessment when residents are identified with having a poor appetite or leaving a high percentage of food on their plate, before making an assumption that a reduced food intake may just be because of the physiological changes associated with ageing or because residents do not like the meals. This warning sign needs to be investigated and addressed before the nutritional status of older adults residing in LTCFs deteriorates unnecessarily.

Although most participants indicated that the care plans of residents always or often incorporated nutritional aspects, one tenth indicated that the facility they worked at did either not include nutritional aspects in the care plans or did not make use of individualised care plans for residents. It is essential that every individual resident in LTCFs have an individualised care plan, incorporating all the necessary nutritional aspects that will address the nutritional needs of the person.

4.5.3 Interventions used to address weight loss

A comprehensive history and physical examination that includes screening for potential risk factors and to assess medication currently used by the older adult need to be the first step in identifying the causes of weight loss.[39] After underlying causes of weight loss have been identified, the next objective would be to treat or manage these conditions and/or contributing factors. A review article has indicated several non-pharmacological interventions that may improve nutrient intake and possible weight gain in older adults.

Examples of these interventions include minimising dietary restrictions, optimising energy intake (by eating small meals more regularly and considering food preferences), provision of liquid supplements between meals, taking multivitamin supplementation and participation in regular exercise.[2] It is prudent to involve a dietitian, and other allied health professionals, such as a speech therapist, depending on factors contributing to the weight loss, with the assessment and management of nutritional-related aspects in addressing UWL of the individual.[2,27]

In this study, providing commercial supplements and considering individuals' food preferences and aversions were made use of most frequently as interventions to address UWL in older adults, followed by referral to a general practitioner for medical examination. While caregivers indicated the consideration of food preferences and aversions as the intervention that was used most frequently, the other nursing staff categories noted to most frequently make use of commercial supplements. Caregivers' more frequent practices of also providing additional snacks during the day and replacing an individual's special diet for normal food - in comparison to other nursing staff categories - may be influenced by the fact that one of the major responsibilities of caregivers is the assistance of residents at mealtimes.

It is reassuring to note that nine out of ten participants indicated that residents would always or often be referred to a general practitioner for medical examination to address UWL. However, senior nursing staff at LTCFs for older adults need to ensure that all residents experiencing significant UWL should be referred for a comprehensive evaluation. Although older adults experiencing UWL would greatly benefit from more frequent involvement from a dietitian to guide nutrition interventions, only half of participants indicated referring an older adult to a dietitian as an intervention to address weight loss. This may be due to the fact that dietetic services are not very accessible to LTCFs for older adults or that nursing staff and medical practitioners do not realise the benefit thereof.

Subsidised LTCFs reportedly made more use of interventions (referral to doctor, dietitian or speech therapist, vitamin and/or mineral supplements, a thorough review of resident's medication) to address weight loss in older adults in comparison to non-subsidised LTCFs. Subsidised LTCFs also indicated the use of assistive eating devices more often. The possibility exists that some subsidised LTCFs, depending on location, may receive more free support from local public health services, in comparison to non-subsidised LTCFs where individual services need to be paid for by the specific resident.

Addressing weight loss is of great essence as weight loss and low body weight are both risk factors for morbidity and mortality irrespective of the underlying aetiology.[41] It is, however, important that an individualised approach, incorporating the preferences of the older adult, needs to be followed when implementing interventions to address weight loss. Regular monitoring of the effectiveness of implemented interventions is also essential.

4.5.4 Facility procedures

A study by Suominen et al. found that nursing staff considered only 15% of older adults to be malnourished, although 57% were malnourished according to the MNA. Furthermore individuals that were considered as being malnourished by staff also received fewer snacks or oral nutritional supplements than those considered to have a normal nutritional status.[14] Kuosma et al. indicated that systematic nutritional assessment that was preceded by individualised care planning resulted in weight stability of residents in a LTCF.[63] These findings highlight the necessity of implementing standard procedures to assess residents' nutritional status and to have a protocol in addressing older adults' nutritional problems.

The majority of nursing staff participants in this study was of opinion that the facility they worked at had the necessary procedures in place to identify residents who were at risk of malnutrition. However, neither the other responses of participants, nor data obtained from facility questionnaires supported this perception. In addition, there were also inadequate procedures in place at facilities to identify older adults at risk of depression and oral health problems, two very common treatable causes of UWL in older adults which are associated with inadequate nutritional intake.[12]

Apart from the implementation of a continuous education programme for staff working at LTCFs for older adults as discussed earlier, these facilities need to ensure that the necessary standard procedures and guidelines to increase the identification, as well as the management of UWL in older adults, are implemented in a holistic manner. There are several validated tools available for screening or assessing an individual's nutritional status (such as the MNA)[24] or other possible contributing factors such as oral problems (DENTAL screening tool)[64], depression (Geriatric Depression scale)[65] and cognitive ability (Folstein Mini-Mental State examination)[66] that facilities can consider incorporating into their procedures.

4.6 CONCLUDING STATEMENT ON DISCUSSION

This study indicated that nursing staff had insufficient knowledge regarding unintentional weight loss in older adults and there was a statistically significant difference in total knowledge within the different categories of nursing staff. Although most participants indicated that residents were weighed, it was not done regularly at all facilities. It is of concern that even if residents were weighed, many nursing staff participants could not identify a significant weight loss in an older adult correctly. There was a very limited use of nutrition screening and assessment tools coinciding with the perception by almost half of the participants that malnutrition is very uncommon in LTCFs for older adults.

Barriers that have been recognised in the identification and management of unintentional weight loss in older adults in LTCFs were on educational level (lack of knowledge regarding weight loss) and managerial level (lack of standard procedures regarding nutritional assessment and intervention strategies).

It is imperative that nursing staff are well informed about and equipped to address all aspects relating to the early identification and management of UWL since they are the primary providers of care to older adults residing in LTCFs. They also need to be knowledgeable with regards to changes in the nutritional needs of residents. Periodic in-service training by a dietitian, experienced in the field of nutrition for older adults, needs to be considered to present up-to-date information and to review important aspects with regards to nutritional assessment and the nutritional needs of older adults as also recommended by Stanek et al.[58]

Routine nutritional assessment will enable early identification of UWL and/or malnutrition, earlier intervention, prevention of poor nutritional status and limitation of the subsequent negative outcomes.[29]

In general, most nursing staff working in LTCFs for older adults in the Cape Metropole had positive perceptions and intentions. By empowering nursing staff through education and implementation of the necessary standard procedures, UWL and consequent malnutrition of older adults residing in LTCFs can be addressed successfully.

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

Findings of the research study will be summarised and the limitations and strengths of the study set out. Recommendations in addressing the barriers in the identification and management of unintentional weight loss (UWL) in long-term care facilities (LTCFs) will also be made.

5.2 SUMMARY OF FINDINGS

Studies have indicated that UWL and malnutrition are commonly encountered among older adults residing in LTCFs and are associated with several negative outcomes. This problem is influenced by nursing staff's perceptions and their lack of knowledge regarding certain nutritional aspects of older adults. These are barriers that could have a negative influence on the nutritional care of older adults.

In this study the mean total knowledge score for nursing staff across all categories was in the same range as the scores obtained through knowledge questionnaires (although not similar to this study's questionnaire) by nursing staff working in LTCFs for older adults in previous international studies. Nursing staff across all categories had a low score in the knowledge area of weight loss in older adults, with less than a quarter of participants that could correctly identify what a significant weight loss in an older adult is. However, nursing staff had a relatively good knowledge of factors or conditions contributing to UWL. This might have been influenced by their observational experiences of how certain factors or conditions have contributed to weight loss in older adults they have cared for.

There was a statistically significant difference in scores for total knowledge, as well as the three knowledge areas for the different categories of nursing staff, with a decline in scores as nursing staff's position (and education level per implication) decreased. This can most probably be attributed to nursing staff's educational qualifications, as other studies have also indicated higher nursing positions and/or educational qualifications to result in higher knowledge scores.

No statistically significant difference was found between the total knowledge score of participants across all nursing staff categories working at different types of LTCFs. There was, however, a tendency for nursing staff working in non-subsidised LTCFs to achieve higher scores for the knowledge area of weight loss.

In general, the majority of participants had positive responses towards the perception statements in the five different domains. The exception was that almost half of participants had the perception that malnutrition is uncommon in LTCFs for older adults and that it is normal for an older adult to have a poor appetite, indicative of a lack of their knowledge in this regard.

Perceptions between the different categories of nursing staff did not differ significantly towards almost all of the perception statements, with the exception of statements regarding meals and eating. Nursing auxiliaries and caregivers had a higher level of incorrect perceptions, reflecting in a lack of knowledge that needs to be addressed as these staff, especially caregivers, have a major responsibility of assisting residents at mealtimes.

The only difference in the perceptions of nursing staff working at different types of LTCFs was that participants at non-subsidised LTCFs were more positive regarding nursing staff having the major role of identifying residents that are malnourished or at risk of malnutrition. Although not statistically significant, there was also a tendency for nursing staff from non-subsidised facilities to elect more positive responses regarding the importance of monitoring residents' weight periodically.

Not all facilities weighed residents, and many of the facilities that did weigh residents, did so infrequently and followed no standard weighing procedures. Although residents were weighed more often at subsidised LTCFs, residents were more often only weighed if requested by a doctor or if weight loss was suspected. Furthermore, even if residents were weighed and weight loss monitored, over three-quarters of nursing staff in this study could not identify a significant weight loss in an older adult correctly due to a lack of knowledge.

The consequence of nursing staff's insufficient knowledge and poor perceptions regarding acceptable weight loss in older adults is that many older adults residing in LTCFs may unintentionally lose a substantial amount of weight before it will be recognised and before concern is raised so that action can be taken.

In spite of the majority of participants' recognition of the importance of monitoring a resident's nutritional status periodically, and their perception on their role and knowledge regarding nutritional status assessment, there was a very limited use of validated nutritional screening or assessment tools. Putting theory and perceptions into practice seems to be a

common problem with the implementation of nutritional screening and assessment methods, as also supported by the results of other international studies.

Half of participants indicated that residents seldom or never had choices with regards to meals. However, most participants indicated that residents were served a substitute dish or food item when a specific menu option was disliked. Individual residents at non-subsidised LTCFs generally had more choices regarding meals and a wider accommodation of residents' food preferences were also more common, possibly due to a higher budget available for the provision of meals. The importance of individualising meals for residents with specific nutritional requirements was a generally accepted perception across all nursing staff categories and facility types. This perception corresponded with most participants also indicating that residents' care plans incorporate nutritional aspects such as special dietary needs.

Although all nursing staff participants in this study would report if a resident's food intake was less than usual, the general practice was to report plate waste of either more than half or more than three-quarters of a meal. Professional and staff nurses tended to report inadequate food intake at a meal sooner than nursing auxiliaries and caregivers, and also sooner at non-subsidised LTCFs than at subsidised LTCFs. This poor practice could be explained by the perception of almost half of participants (significantly so for lower categories of nursing staff) that it is normal for an older adult to have a poor appetite.

Interventions to increase nutritional intake (commercial supplements and to take food preferences and aversions into consideration) were used most frequently at facilities, followed by referral to a general practitioner for medical examination. All nursing staff categories, except caregivers, indicated commercial supplements as the most frequently applied intervention to address UWL in older adults, while caregivers acknowledged being considerate towards residents' food preference and aversions as the most frequently applied intervention. In general, nursing staff working at subsidised LTCFs made more use of interventions to address weight loss in older adults than nursing staff working at subsidised LTCFs.

The majority of participants in this study were of the opinion that the facility they worked at had the necessary procedures in place to identify residents that were at risk of malnutrition. However, neither participants' other responses nor data obtained from facility questionnaires supported this perception.

A combination of training to address the lack of knowledge, as well as implementation of standardised procedures, will therefore be necessary to resolve this problem of not effectively identifying and addressing nutritional problems of residents that can contribute to UWL and a decrease in their nutritional status.

5.3 LIMITATIONS

Due to the current study's specific focus on the identification and management of UWL in older adults in LTCFs there was no previously validated nutrition questionnaire available in the literature that could be used to assess nursing staff's knowledge, perceptions and practices in this regard. The nursing staff questionnaire did not incorporate questions regarding participants' exposure to nutrition education as either part of their nursing training and/or as separate nutrition courses. Although this detail was not essential, it would have provided interesting background information.

There was not an equal representation of nursing staff within the four different categories, especially with regards to the number of staff nurses. In general, participating subsidised LTCFs had fewer professional nurses as part of the nursing team, while there were fewer staff nurses and nursing auxiliaries employed within participating non-subsidised LTCFs. The different staffing ratio at subsidised and non-subsidised LTCFs could have influenced the results of the knowledge, perceptions and practices of nursing staff within the two different facility types.

It needs to be noted that this study population was representative of nursing staff working at LTCFs for older adults in the Cape Metropole and that the findings cannot be generalised to nursing staff working at LTCFs for older adults in the whole of South Africa.

5.4 RECOMMENDATIONS

There is an urgent need for action to prevent malnutrition of older adults in LTCFs. Despite the fact that the prevalence of malnutrition in this population group is so high, due to a variety of contributing factors, the early identification and management thereof does not receive the appropriate level of attention.

Periodic or regular assessment and documentation of an older adult's nutritional status, using a validated tool, should become a mandatory, integral part of a comprehensive

geriatric assessment in LTCFs. An older adult's nutritional status plays a vital role in their general health and well-being and needs to be addressed early if a warning sign, such as unintentional weight loss, is detected, to limit the negative outcomes associated with a poor nutritional status.

LTCFs for older adults need to have documented standard nursing procedures and guidelines in place, supervised by the professional nurse, to ensure that UWL and other nutritional problems are detected and addressed early. Performance appraisals and remuneration of staff employed by LTCFs for older adults can be considered to ensure implementation of routine screening and support initiatives.

Staff also need to receive continuous development in the workplace to have a certain level of knowledge of nutrition for older adults to be able to effectively practice and understand the implemented procedures and guidelines regarding nutritional aspects. Periodic in-service training by a dietitian, experienced in the field of nutrition for older adults, needs to be considered to present up-to-date information and to review important aspects regarding nutritional assessment and the nutritional needs of older adults.

Further research is needed to assess the quality and quantity of nutritional aspects in the curriculum content of nursing courses and qualifications available in South Africa, especially with regards to nutrition and nutritional assessment of the older adult.

Furthermore, future research should determine whether nursing staff students are exposed to internship within the area of nutritional aspects relating to older adults, as this will increase retention of theoretical knowledge.

A similar study at national level can be considered to determine results of nursing staff working in the whole of South Africa. It will be beneficial to determine barriers and recommendations to specific regions and facility types, which will result in the possibility of a more targeted approach in addressing the problem of identifying and addressing UWL in LTCFs for older adults in South Africa.

5.5 SIGNIFICANCE OF RESEARCH

This research study has been the first of its kind in South Africa. The current barriers with regards to nursing staff's knowledge, perceptions and practices of UWL in older adults residing in LTCFs in the Cape Metropole have been identified. The results obtained provide

baseline information that can be used to improve the identification and management of UWL in older adults in LTCFs.

The strengths of the study include that it incorporated nursing staff from 15 randomly selected facilities, incorporating different facility types as well as staff from different nursing staff categories. This increased the generalisability of findings to the Cape Metropole area. It is valuable to have results of a group of nursing staff but especially to have benchmark data regarding the knowledge, perceptions and practices of nursing staff in different categories, as well as from nursing staff working at the different facility types. Many other studies have only included limited nursing position roles and were limited to a single or small number of facilities not always randomly selected.

With the increasing growth of the population of older adults, it is of the utmost importance to identify UWL in older adults at an early stage to be able to address and consequently limit the adverse outcomes associated with UWL and malnutrition. Early detection and intervention will not only contribute to an improved outcome for individual older adults regarding their health and quality of life, but will also decrease health care costs and ease the workload of staff.

5.6 PERSONAL DEVELOPMENT GAINED BY THE RESEARCHER

Working as a dietitian in the field of nutritional care for older adults, I have observed the low priority that is often given to the identification and management of UWL in older adults. I also often came across a lack of knowledge regarding the definition of a significant weight loss in an older adult, and limited procedures and guidelines in place to effectively identify and manage UWL in LTCFs.

When I originally decided to embark on this research journey, I did not anticipate the amount of time and effort that would be necessary to plan and conduct the study and write up the thesis. It has, however, been rewarding in different ways. I have learned so much about the research process and in doing so have gained immense appreciation for the work that so many other researchers do. In conjunction with this learning experience, I have also extensively improved my knowledge in the area of UWL in older adults and familiarised myself with the available research with regards to knowledge, perceptions and practices of nursing staff working in LTCFs for older adults.

This research study made it possible for me to not only share the knowledge, perceptions and practices of nursing staff working at LTCFs in the Cape Metropole, but also to share the existing barriers in the identification and management of UWL in LTCFs with others within this field.

5.7 CONCLUSION

Nursing staff across all categories had a poor knowledge regarding weight loss in older adults. Most nursing staff had positive perceptions regarding the majority of aspects with regards to the identification and management of UWL in older adults in LTCFs. The exception was that almost half of participants had the perception that malnutrition is uncommon in LTCFs for older adults and that it is normal for an older adult to have a poor appetite, indicative of a lack of knowledge in this regard. Many participants indicated practices that do not support the identification and management of UWL in older adults in LTCFs. Although nursing staff's intentions were good, many did not have sufficient knowledge, nor did facilities have the necessary procedures in place, to effectively identify and manage UWL in older adults residing in LTCFs in the Cape Metropole.

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CHAPTER 7: ADDENDA

Addendum A

Facility Questionnaire

Unintentional weight loss in older adults: Nutrition-related knowledge, perceptions and practices of nursing staff working in long-term care facilities in the Cape Metropole.

This questionnaire needs to be completed by the fieldworker during the course of an interview with the manager and the head sister/most senior nursing staff member of the facility.

Participant code: F__ __ __ /2013-__-__

1. Which one of the following is **applicable to the facility**? Choose only one option by making a cross (X) in the relevant block.

a. Private facility, receives no subsidy from government ☐

b. Private facility, receives subsidy from government ☐

c. Governmental facility ☐

d. Other ☐

Specify type: ☐

2. **How many residents** does the facility accommodate in each of the following **categories**?

a. In total ☐

b. 65 years and older ☐

c. Independent (Category 1) ☐

d. Assisted living - needs assistance with some activities of daily living (Category 2) ☐

e. Needs 24 hours nursing supervision and care (Category 3) ☐

f. Other ☐

Specify type: ☐

3. **Which of the following meals** are provided to residents in the different categories? Mark the applicable options for every category by making a cross (X) in the relevant blocks.

a. Category 1	N.A.	Breakfast	Morning snack	Lunch	Afternoon snack	Supper	Evening snack
b. Category 2	N.A.	Breakfast	Morning snack	Lunch	Afternoon snack	Supper	Evening snack
c. Category 3	N.A.	Breakfast	Morning snack	Lunch	Afternoon snack	Supper	Evening snack
d. Other	N.A.	Breakfast	Morning snack	Lunch	Afternoon snack	Supper	Evening snack
Specify type:							

4. How many of the following **instruments** for determining weight and height does the facility have? Please provide detail where applicable or indicate NA.

Instrument	Number (in working order)	Last calibration date	How calibrated?
a. Mechanical standing scale			
b. Digital standing scale		N.A.	N.A.
c. Sit scale			
d. Balance beam scale			
e. Stadiometer (measures height)		N.A.	N.A.
f. Measuring tape		N.A.	N.A.

5. How often are the following **nutritional assessments** done **ON ADMISSION** of residents? Choose only one answer per assessment by making a cross (X) in the relevant block.

a. Weight	Always	Often	Seldom	Never
b. Height	Always	Often	Seldom	Never
c. Screening/assessment of nutritional status				
1. Body Mass Index (BMI)	Always	Often	Seldom	Never
2. Mini Nutritional Assessment (MNA) – short form	Always	Often	Seldom	Never
3. Mini Nutritional Assessment (MNA) – comprehensive	Always	Often	Seldom	Never
4. Other tool	Always	Often	Seldom	Never
Specify tool:				

6. Are questions asked with regards to a person's **weight history before admission**?	Yes	No

7. Only answer this question if **weight, height or nutritional status** is assessed **ON ADMISSION**.		
a. Are the **nutritional assessments** being done in Question 5, **recorded**?	Yes	No
b. Only complete this question if you answered *yes* to the previous question (Question 7a).		
Specify **where** assessments are recorded:		

8. Does the facility make use of any of the following **nutritional screening or assessment tools AFTER ADMISSION**? Answer by circling either yes or no for every question. Where you answered *yes*, indicate the frequency that a tool is used in the second column.		Frequency per year
a. Weight	Yes/No	
b. Height	Yes/No	
c. Screening/assessment of nutritional status		
1. Body Mass Index (BMI)	Yes/ No	
2. Mini Nutritional Assessment (MNA), short form	Yes/ No	
3. Mini Nutritional Assessment (MNA), comprehensive form	Yes/ No	
4. Other	Yes/ No	
Specify tool:		

9. Only answer this question if **weight, height or nutritional status** is assessed **AFTER ADMISSION**.		
a. Are the **nutritional assessments** being done in Question 8, **recorded**?	Yes	No
b. Only complete this question if you answered *yes* to the previous question (Question 9a). Specify **where** assessments are recorded:		

10a. Is the risk of **depression** in residents formally assessed at the facility?	Yes	No
Only complete this question if you answered *yes* to the previous question (Question 10a). b. Which tool is used to assess depression?		
c. How often is it done?		
d. Who is responsible for doing the assessment?		

11a. Are **oral health examinations** performed on the residents at the facility?	Yes	No
Only complete this question if you answered *yes* to the previous question (Question 11a).		
b. Which tool is used to examine oral health?		
c. How often is it performed?		
d. Who is responsible for doing the examination?		

12a. Does the facility make provision for **physical exercise programs** for residents?	Yes	No
b. If yes, specify type and frequency of each:		

13a. Does the facility have **access to a dietitian** to support the nursing team in the evaluation and implementation of a nutritional care plan for residents with nutritional problems?	Yes	No
Only complete this question if you answered *yes* to the previous question (Question 13a).		
b. Who initiates the visit to the dietitian?		
c. What is the frequency of the dietitian's involvement?		
d. Who is responsible for reimbursing the dietitian's fee?		
e. Specify/describe the role of the dietitian at the facility:		

14a. How often does the facility make use of **individualised care plans** for residents?	Always	Often	Seldom	Never

Only complete this question if you answered *seldom, often or always* to the previous question (Question 14a).

b. Does the individualised care plan have a **separate section** to indicate **nutritional care**?	Yes	No

Only complete this question if you answered *yes* to the previous question (Question 14b).

c. **How often** is the section on **nutritional care** completed?	Always	Often	Seldom	Never

15. Who decides on the **implementation of nutrition interventions**? Choose all applicable person/s by making a cross (X) in the relevant block/s.

a. Doctor	
b. Dietitian	
c. Facility manager	
d. Registered nurse	
e. Enrolled nurse (staff nurse)	
f. Enrolled nursing auxiliary (assistant nurse)	
g. Caregiver	
h. Other	
Specify person:	

16a. Are there formal **criteria** to guide the **implementation of nutritional interventions**?	Yes	No

b. If *yes*, describe which criteria are used?

17. Which of the following interventions are being used in the facility to **address weight loss** in residents? Choose only <u>one answer</u> per question by making a cross (X) in the relevant block.

a. Commercial supplementation drinks	Always	Often	Seldom	Never
b. Supplementation drinks prepared in the kitchen	Always	Often	Seldom	Never
c. Additional snacks during the day e.g. sandwich with tea	Always	Often	Seldom	Never
d. Fortifying meals e.g. adding extra oil/margarine/sugar to food	Always	Often	Seldom	Never
e. Vitamin and/or mineral supplements	Always	Often	Seldom	Never
Specify supplement:				
f. Tonic	Always	Often	Seldom	Never
g. Less-restrictive diets (for individuals on a special diet)	Always	Often	Seldom	Never
h. Take food likes/dislikes into consideration	Always	Often	Seldom	Never
i. Smaller meals, more regularly	Always	Often	Seldom	Never
j. Referral to doctor for medical evaluation	Always	Often	Seldom	Never
k. Referral to dietitian for nutritional assessment	Always	Often	Seldom	Never
l. Referral to speech therapist to evaluate swallowing and for rehabilitation	Always	Often	Seldom	Never
m. A thorough review of resident's medication to determine if it could contribute to a decreased food intake or weight loss	Always	Often	Seldom	Never
n. Promote more exercise/physical activity	Always	Often	Seldom	Never
o. Other	Always	Often	Seldom	Never
p. Specify:				

18a. Is **intake** of **nutritional supplements recorded**?	Always	Some-times	Never
b. If sometimes, indicate **in which cases/instances**?			

Only complete this question if you answered *yes or sometimes* to Question 18a.

19. On which of the following **documents** is **supplement intake recorded**? Choose the applicable answer by making a cross (X) in the relevant blocks.

a. Cardex	Always	Some-times	Never
b. Medicine administration chart	Always	Some-times	Never
c. Fluid balance chart (intake and output)	Always	Some-times	Never
d. Other	Always	Some-times	Never
Specify:			

Addendum B

Nursing Staff Questionnaire

Unintentional weight loss in older adults: Nutrition-related knowledge, perceptions and practices of nursing staff working in long-term care facilities in the Cape Metropole.

This questionnaire needs to be completed by all nursing staff without help from their colleagues.

Participant code: NS/__ __ __ /___ /2013-__-__

Please complete the following questions:

1. What is your **age**? (in years)		
2. What is your **gender**?	Male	Female

3. What is your **position**? Choose only one answer by making a cross (X) in the relevant block.

a. Registered nurse	
b. Enrolled nurse (staff nurse)	
c. Enrolled nursing auxiliary (assistant nurse)	
d. Caregiver	
e. Other	
Specify position:	

4. What is your **highest nursing qualification**? Choose only <u>one answer</u> by making a cross (X) in the relevant block.

a. 4 year degree	
b. 4 year diploma	
c. 2 year certificate	
d. 1 year certificate	
e. 6 month certificate	
f. 6 month skills course	
g. No formal training	
h. Other	
Specify:	

5. How many **years of experience** do you have working in the following sectors? Indicate for all three options.

a. Working with older people (65 years and older)?		(in years)
b. Working with older people specifically in long-term care facilities?		(in years)
c. Working at current facility?		(in years)

6. Choose only <u>one answer</u> per question by making a cross (X) in the relevant block.

a. Weight loss and wasting is common in older persons residing in long-term care facilities?	Agree	Disagree	Unsure	
b. Weight loss in older people can be ascribed to the aging process and can never be prevented.	Agree	Disagree	Unsure	
c. How much weight loss is acceptable for an older person as part of the ageing process?	0.1-0.2 kg per year	1-2 kg per year	2-4 kg per year	4-6 kg per year

7. Which one of the following observations is the **most reliable indicator** to raise **concern about weight loss** in an older person (65 years and older)? Choose only one answer by making a cross (X) in the relevant block.

a. When a family member raises concern ☐

b. When the older person is eating very little ☐

c. When the older person's clothes fit looser than before ☐

d. If the older person loses weight according to a scale ☐

8. Which one of the following criteria indicates **significant weight loss** in an older person (65 years and older), enough to **raise concern**? Choose one answer by making a cross (X) in the relevant block.

a. If they lose 3% of their weight in 6 to 12 months (e.g. 65 kg person loses 2 kg) ☐

b. If they lose 5% of their weight in 6 to 12 months (e.g. 65 kg person loses 3.25 kg) ☐

c. If they lose 10% of their weight in 6 to 12 months (e.g. 65 kg person loses 6.5 kg) ☐

d. If they lose 20% of their weight in 6 to 12 months (e.g. 65 kg person loses 13 kg) ☐

e. None of the above ☐

9. Which of the following conditions or factors can **contribute to unwanted weight loss**? Choose only one answer per condition (a – j) by making a cross (X) in the relevant block.

	Yes	No	Unsure
a. Depression	☐	☐	☐
b. Dementia (deterioration of mental functions e.g. Alzheimer's disease)	☐	☐	☐
c. Hypertension (high blood pressure)	☐	☐	☐
d. Oral problems	☐	☐	☐
e. Osteoporosis (brittle bones)	☐	☐	☐
f. Certain medications	☐	☐	☐
g. Cancer	☐	☐	☐
h. Osteoarthritis (degenerative joint disease)	☐	☐	☐
i. Decreased appetite	☐	☐	☐
j. Incontinence	☐	☐	☐

10. When a person **loses weight without trying to do so**, what **consequences can there be for the older person**? Choose only one answer per condition (a – i) by making a cross (X) in the relevant block.

a. Decreased quality of life	Yes	No	Unsure
b. Parkinson's disease	Yes	No	Unsure
c. Falls and hip fractures	Yes	No	Unsure
d. Dementia (deterioration of mental functions e.g. Alzheimer's disease)	Yes	No	Unsure
e. Increased infections	Yes	No	Unsure
f. Osteoporosis (brittle bones)	Yes	No	Unsure
g. Pressure ulcers	Yes	No	Unsure
h. Increased risk for death	Yes	No	Unsure
i. Increased dependency on others for daily activities such as bathing, dressing, eating, using toilet.	Yes	No	Unsure

11. How is **Body Mass Index (BMI)** calculated? Choose only one answer by making a cross (X) in the relevant block.

a. Weight x height ☐

b. Weight ÷ height ☐

c. Weight ÷ height^2 ☐

d. Weight^2 ÷ height ☐

e. Unsure ☐

12. What is the normal range for **Body Mass Index (BMI)** for older persons? Choose only one answer by making a cross (X) in the relevant block.

a. 18 – 23 ☐

b. 18.5 – 25 ☐

c. 21 – 27 ☐

d. 23.5 – 29 ☐

e. Unsure ☐

13. Are residents weighed at this facility?	Yes	No
If yes, complete questions **14-19**. **If no**, continue from question **20**.		

14. How often are residents **weighed after admission?** Choose **all** the applicable answers by making a cross (X) in the relevant blocks.

a. Only if requested by a doctor	
b. Two or three times a year	
c. Every second or third month	
d. Monthly	
e. Weekly	
f. When it is suspected that the older person have lost weight	
g. On admission to frail care	
h. Other	
Specify:	

15. Are residents' **weights recorded?**	Yes	No

Only complete this question if you answered *yes* to the previous question. (Question 15)

16. On which of the following **documents** is weight recorded? Choose the applicable answer/s by making a cross (X) in the relevant block/s.

a. Cardex	
b. Monthly observation form	
c. Weight chart with summary of weight during the year	
d. Other	
Specify:	

17. **How are residents weighed?** Choose only one answer by making a cross (X) in the relevant block.

a. With all clothing and shoes

b. With all clothing but without shoes

c. Without **heavy** clothing and without shoes

18. On what type of **surface** is a scale placed when residents are weighed? Choose only one answer by making a cross (X) in the relevant block.

a. On any even surface e.g. tiles or wooden floor, etc.

b. On carpet

c. On a hard surface e.g. uneven tiles

19a. Does nursing staff **monitor weight loss** in residents? Yes | No

Only complete this question if you answered *yes* to the previous question (Question 19a).

b. Explain how you will find out and ensure if there is a change in a residents' weight:

20. Does the facility make use of any of the following **nutritional screening or assessment tools**? Answer by circling either *yes* or *no* for every question. Where you answered *yes*, indicate the frequency that a tool is used in the second column.

		Frequency per year
a. Body Mass Index (BMI)	Yes/ No	
b. Mini Nutritional Assessment (MNA), short form	Yes/ No	
c. Mini Nutritional Assessment (MNA), comprehensive form	Yes/ No	
d. Other	Yes/ No	
Specify tool:		

21. Do you **report** when a resident's **food intake is less than usual**?	Yes	No

Only complete this question if you answered *yes* to the previous question: (Question 21)

22. **When will you report** on the resident's inadequate food intake? Choose <u>one</u> of the following three options by making a cross (X) in the relevant block.

a. If more than ¼ of food is left on the plate.	
b. If more than ½ of food is left on the plate.	
c. If more than ¾ of food is left on the plate.	

23. Do you **document** when a resident's food intake is less than usual?	Yes	No

Only complete this question if you answered *yes* to the previous question (Question 23):

24. Indicate **where** inadequate food intake is documented.	

25. Which of the following interventions are being used in the facility to **address weight loss** in residents?
Choose only <u>one answer</u> per question by making a cross (X) in the relevant block.

q. Commercial supplementation drinks e.g. ensure, Nutren, Nutrimil	Always	Often	Seldom	Never
r. Supplementation drinks prepared in the kitchen	Always	Often	Seldom	Never
s. Additional snacks during the day e.g. sandwich with tea	Always	Often	Seldom	Never
t. Fortifying meals e.g. adding extra oil/margarine/sugar to food	Always	Often	Seldom	Never
u. Vitamin and/or mineral supplements	Always	Often	Seldom	Never
Specify supplement:				
v. Tonic	Always	Often	Seldom	Never
w. To take a person off their special diet and give them normal food	Always	Often	Seldom	Never
x. Take food likes/dislikes into consideration	Always	Often	Seldom	Never
y. Smaller meals, more regularly	Always	Often	Seldom	Never
z. Referral to doctor for medical evaluation	Always	Often	Seldom	Never
aa. Referral to dietitian for nutritional assessment	Always	Often	Seldom	Never
bb. Referral to speech therapist to evaluate swallowing and for rehabilitation	Always	Often	Seldom	Never
cc. A thorough review of resident's medication to determine if it could contribute to a decreased food intake or weight loss	Always	Often	Seldom	Never
dd. Promote more exercise/physical activity	Always	Often	Seldom	Never
ee. Other	Always	Often	Seldom	Never
Specify:				

26. **Complete the following question if the facility serves supplementation drinks to certain residents. (Question 25)** Choose only one answer by making a cross (X) in the relevant block.

a. When is supplementation drinks usually served?	Before a meal	With a meal	Directly after a meal	Between meals
b. Is the intake of supplements documented?	Yes	No	Sometimes	
c. If you answered *yes* to the previous question (question 26b), indicate **when** and **where** intake is documented.				

Choose only one answer by making a cross (X) in the relevant block.

27. Do the residents have any choices with regards to meals e.g. choice menus?	Always	Often	Seldom	Never
28. Is a substitute dish or food item served when a resident dislikes a specific menu option?	Always	Often	Seldom	Never
29. Do staff assist residents with feeding if they need help during mealtimes?	Always	Often	Seldom	Never
30. Do staff allow extra time during mealtimes for residents that eat very slowly?	Always	Often	Seldom	Never
31. Does the facility make use of assistive devices (eating aids e.g. plate guard, modified spoon) to assist residents with specific problems to eat independently?	Always	Often	Seldom	Never
32. Do residents' care plans incorporate nutritional aspects e.g. special dietary needs, supplementation.	Always	Often	Seldom	Never

For the following statements, choose only <u>one answer</u> by making a cross (X) in the relevant block.

33. I do not feel that it is worth the effort to identify a resident that loses weight because it is part of the natural ageing process.	Strongly agree	Agree	Disagree	Strongly disagree
34. It is important to monitor a resident's weight monthly.	Strongly agree	Agree	Disagree	Strongly disagree
35. I know what to do when a resident has unintended weight loss.	Strongly agree	Agree	Disagree	Strongly disagree
36. I have sufficient knowledge to assess if a resident's change in weight is of concern to his/her wellbeing.	Strongly agree	Agree	Disagree	Strongly disagree
37. This facility has the necessary procedures in place to identify residents that are at risk of malnutrition.	Strongly agree	Agree	Disagree	Strongly disagree
38. Malnutrition is uncommon in older persons residing in long- term care facilities.	Strongly agree	Agree	Disagree	Strongly disagree
39. Nursing staff has the major role of identifying residents that are malnourished or at risk of malnutrition in long-term care facilities.	Strongly agree	Agree	Disagree	Strongly disagree
40. It is important to monitor a resident's nutritional status periodically.	Strongly agree	Agree	Disagree	Strongly disagree
41. I have sufficient knowledge on how to evaluate a resident's nutritional status.	Strongly agree	Agree	Disagree	Strongly disagree
42. Exercise plays an important role in the maintenance of muscle tissue.	Strongly agree	Agree	Disagree	Strongly disagree
43. It is normal for an older person to have a poor appetite.	Strongly agree	Agree	Disagree	Strongly disagree
44. There is enough time to feed the residents that need help at mealtimes.	Strongly agree	Agree	Disagree	Strongly disagree
45. It is necessary to individualise meals for residents with specific nutritional requirements.	Strongly agree	Agree	Disagree	Strongly disagree
46. It is of no use to train residents with eating problems to eat by themselves.	Strongly agree	Agree	Disagree	Strongly disagree
47. Eating nutritious meals is more important for younger individuals than in older people.	Strongly agree	Agree	Disagree	Strongly disagree
48. I know when it is necessary to report if a resident has a nutritional problem.	Strongly agree	Agree	Disagree	Strongly disagree

Addendum C

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INFORMATION LEAFLET AND CONSENT FORM FOR FACILITY

TITLE OF THE RESEARCH PROJECT:
Unintentional weight loss in older adults: Nutrition-related knowledge, perceptions and practices of nursing staff working in long term care facilities in the Cape Metropole.

REFERENCE NUMBER:
S12/11/279

PRINCIPAL INVESTIGATOR:
Corné de Haas

ADDRESS:
Division of Human Nutrition, Faculty of Medicine and Health Sciences, Stellenbosch University, PO Box 19063; Francie van Zijl Drive, TYGERBERG

CONTACT NUMBER:
083 651 2305

This facility is being invited to take part in a research project. Consent has been obtained by the governing organisation: ..... (attached). Please take some time to read the information presented here, which will explain the details of this project. Please ask the researcher any questions about any part of this project that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research entails and how you could be involved. Also, your participation is entirely voluntary and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

This study has been approved by the Health Research Ethics Committee at Stellenbosch University and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

Fakulteit Geneeskunde en Gesondheidswetenskappe
Faculty of Medicine and Health Sciences

Afdeling Menslike Voeding • Division of Human Nutrition
Verbind tot Optimale Gesondheid • Committed to Optimal Health
Department of Interdisciplinary Health Sciences
PO Box 19063 • Tygerberg 7505 • South Africa
Tel.: +27 21 938 9259 • Faks/Fax: +27 21 938 2593
Webblad / Web page: www.sun.ac.za/nutrition ; www.sun.ac.za/nlous

What is this research study all about?

- *The aim of the study is to determine the nutrition-related knowledge, perceptions and practices of nursing staff in long term care facilities with regards to unintentional weight loss in older adults, 65 years and older. Unintentional weight loss is experienced when individuals lose weight without trying to.*
- *Long term facilities in the Cape Metropole, accommodating older people, have been randomly selected to take part in the research study.*

Why have this facility been invited to participate?

- *This facility is one of approximately 30 facilities that have been randomly selected to take part in the research study. Available nursing staff from all levels will be invited to participate in the study.*

What will the facility's responsibilities be?

- *The facility manager and senior member of the nursing staff need to provide information/answers during a structured interview conducted by the researcher.*
- *Management has to assist with communicating to participating nursing staff with regards to their involvement in the research study, as well as time- and space arrangements.*
- *Nursing staff need to complete the Nursing staff Questionnaire on their own, without the help of colleagues, in a private area.*

Will the facility benefit from taking part in this research?

- *The facility itself will not benefit from taking part in the study. However, in future older adults may benefit from the research as the results of this study will indicate possible problem areas that exist with the identification and implementation of strategies to address unintentional weight loss in this population group.*

Are there risks involved in the facility taking part in this research?

- *There are no risks involved.*

If you do not agree to take part, what alternatives do you have?

- *You may refuse to participate in this study, at the beginning, or at any point during the study. If you do not wish to participate, you will not be affected in any way.*

Who will have access to the questionnaires?

- Reporting on results will be done anonymously. A unique participant number will be allocated to each participant for data capturing purposes and to ensure anonymity. *The information collected will be handled confidentially and will only be used for the purpose of this research. Only the researcher will have access to the information.*

Will the facility be paid to take part in this study and are there any costs involved?

- *No the facility will not be paid to take part in the study. There will be no costs involved for the facility, if the facility does take part.*

Is there anything else that the facility should know or do?

- *The facility can contact the Health Research Ethics Committee at 021-938 9207 if you have any concerns or complaints that have not been adequately addressed by the researcher.*
- *The facility will receive a copy of this information and consent form for their records.*

Declaration by facility

By signing below, I ……(manager of facility) agree that the facility can take part in a research study entitled: Unintentional weight loss in older adults: Knowledge, perceptions and practices of nursing staff in long term care facilities.

I declare that:

- I have read this information and consent form and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is voluntary and the facility has not been pressurised to take part.
- The facility may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- The facility may be asked to leave the study before it has finished if the facility do not follow the correct procedures as agreed to.

Signed at (*place*) …… on (*date*) …… 2013.

…… ……
Signature of manager of facility Signature of witness

Declaration by investigator

I *(name)* …… declare that:

- I explained the information in this document to ……
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above.

Signed at (*place*) …… on (*date*) …… 2013.

…… ……
Signature of investigator Signature of witness

Addendum D

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INFORMATION LEAFLET AND CONSENT FORM FOR PARTICIPANT

TITLE OF THE RESEARCH PROJECT:
Unintentional weight loss in older adults: Nutrition-related knowledge, perceptions and practices of nursing staff working in long term care facilities in the Cape Metropole.

REFERENCE NUMBER:
S12/11/279

PRINCIPAL INVESTIGATOR:
Corné de Haas

ADDRESS:
Division of Human Nutrition, Faculty of Medicine and Health Sciences, Stellenbosch University, PO Box 19063; Francie van Zijl Drive, TYGERBERG

CONTACT NUMBER:
083 651 2305

You are being invited to take part in a research project. Please take some time to read the information presented here, which will explain the details of this project. Please ask the researcher any questions about any part of this project that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research entails and how you could be involved. Also, your participation is entirely voluntary and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

This study has been approved by the Health Research Ethics Committee at Stellenbosch University and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and the Medical Research Council (MRC) Ethical Guidelines for Research.

Fakulteit Geneeskunde en Gesondheidswetenskappe
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Webblad / Web page: www.sun.ac.za/nutrition; www.sun.ac.za/nlous

What is this research study all about?

- *The aim of the study is to determine the nutrition-related knowledge, perceptions and practices of nursing staff in long term care facilities with regards to unintentional weight loss in older adults, 65 years and older. Unintentional weight loss is experienced when individuals lose weight without trying to.*
- *Long term care facilities in the Cape Metropole, accommodating older adults, have been randomly selected to take part in the research study.*

Why have you been invited to participate?

- *The facility where you are working at has been randomly selected to take part in the research study. Available nursing staff from all levels is invited to participate in the study. You are one of approximately 120 participants that are taking part in the study.*

What will your responsibilities be?

- *A questionnaire will be completed by all participating nursing staff, irrespective of their qualification and position held at the facility, who are on duty, available and who gave consent to take part in the study.*
- *Participants need to complete the questionnaire on their own, without the help of colleagues and/or the researcher.*
- *It is important to give an honest opinion when completing the questionnaire.*

Will you benefit from taking part in this research?

- *You will not personally benefit from taking part in the study. However, in future older adults may benefit from the research as the results of this study will indicate possible problem areas that exist with the identification and implementation of strategies to address unintentional weight loss in this population group.*

Are there risks involved in your taking part in this research?

- *There are no risks involved.*

If you do not agree to take part, what alternatives do you have?

- *You may refuse to participate in this study, at the beginning, or at any point during the study. If you do not wish to participate, you will not be affected in any way.*

Who will have access to your questionnaire?

- Reporting on results will be done anonymously. A unique participant number will be allocated to each participant for data capturing purposes and to ensure anonymity. *The information collected will be handled confidentially and will only be used for the purpose of this research. Only the researcher will have access to the information.*

Declaration by investigator

I *(name)* ..... declare that:

- I explained the information in this document to .....
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above.

Signed at *(place)* ..... on *(date)* ..... 2013.

.....
Signature of investigator

.....
Signature of witness

Declaration by interpreter

I *(name)* ..... declare that:

- I assisted the investigator *(name)* ..... to explain the information in this document to *(name of participant)* ..... using the language medium of Afrikaans/Xhosa.
- We encouraged him/her to ask questions and took adequate time to answer them.
- I conveyed a factually correct version of what was related to me.
- I am satisfied that the participant fully understands the content of this informed consent document and has had all his/her question satisfactorily answered.

Signed at *(place)* ..... on *(date)* ..... 2013.

.....
Signature of interpreter

.....
Signature of witness

Addendum E

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Approval Notice
Response to Modifications- (New Application)

23-Jan-2013
DE HAAS, Johanna Cornelia

Ethics Reference #: S12/11/279
Title: Unintentional weight loss in older adults: Nutritional-related knowledge, perceptions and practices of nursing staff

Dear Mrs Johanna DE HAAS,

The Response to Modifications -*(New Application)* received on 06-Nov-2012, was reviewed by members of Health Research Ethics Committee 2 via Expedited review procedures on 22-Jan-2013 and was approved.
Please note the following information about your approved research protocol:

Protocol Approval Period: 22-Jan-2013 - 22-Jan-2014

Please remember to use your protocol number (S12/11/279) on any documents or correspondence with the HREC concerning your research protocol.

Please note that the HREC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

After Ethical Review:
Please note a template of the progress report is obtainable on www.sun.ac.za/rds and should be submitted to the Committee before the year has expired.
The Committee will then consider the continuation of the project for a further year (if necessary). Annually a number of projects may be selected randomly for an external audit.
Translation of the consent document to the language applicable to the study participants should be submitted.

Federal Wide Assurance Number: 00001372
Institutional Review Board (IRB) Number: IRB0005239

The Health Research Ethics Committee complies with the SA National Health Act No.61 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 Part 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes 2004 (Department of Health).

Provincial and City of Cape Town Approval

Please note that for research at a primary or secondary healthcare facility permission must still be obtained from the relevant authorities (Western Cape Department of Health and/or City Health) to conduct the research as stated in the protocol. Contact persons are Ms Claudette Abrahams at Western Cape Department of Health (healthres@pgwc.gov.za Tel: +27 21 483 9907) and Dr Helene Visser at City Health (Helene.Visser@capetown.gov.za Tel: +27 21 400 3981). Research that will be conducted at any tertiary academic institution requires approval from the relevant hospital manager. Ethics approval is required BEFORE approval can be obtained from these health authorities.

We wish you the best as you conduct your research.
For standard HREC forms and documents please visit: www.sun.ac.za/rds

If you have any questions or need further assistance, please contact the HREC office at 0219389207.

Included Documents:
Synopsis
Application Form
Checklist
Questionnaire
Consent Form
Protocol
Cover Page

Sincerely,

Maxmeda Davids